most companies in that industry and the pragmatic aspects of doing so.

A company's position in its product life cycle has a great effect on its current spending relative to the amortization of past capitalization of development costs. However, as a practical matter--in the absence of more accurate figures--we use the annual amortization figure reported in the financial statements as a proxy for the current year's development costs. We realize, too, that the amount amortized is not entirely comparable across companies, as the amortization period for these assets may vary. For example, in the case of software, it typically ranges from two to five years.

Adjustment procedures

Data requirements

- Amount of development costs incurred and capitalized during the period; and
- Amount of amortization of relevant capitalized costs.

Calculations

- EBITDA, operating profit before depreciation, and capital expenditures: subtract the amount of net capitalized development costs, or, alternatively, the amortization amount for that period.
- EBIT and operating profit after depreciation: subtract (or add, as the case may be) the difference between the spending and amortization in the period.
- FFO and capital expenditures: subtract the amount capitalized in the period.
- Balance sheet accounts: We do not carry through the adjustment to the cumulative asset (and equity) accounts, weighing the complexity of such adjustments against the limited impact that can be expected in most cases on amounts that are secondary to our analysis.

(Please see "Accounting Issues In The U.S. High Technology Group," published Jan. 3, 2007, on RatingsDirect.)

Capitalized Interest

We factor in capitalized interest as expense in the period when incurred. The valuation of property, plant, and equipment (PP&E) includes, under some GAAP, a cost of carry element relating to multiperiod project expenditures. Part of the rationale is that the company must factor the carrying costs when deciding on a project's economics, but this obscures the amount that actually must be paid during the period. Companies may also have significant discretion with respect to the amounts they capitalize, making comparisons difficult. Accordingly, we prefer to focus on total interest cost.

As a result, we reverse interest capitalization and include the amount as an expense. In the cash flow statement, we reclassify capitalized interest from investing to operating cash flow. This correspondingly reduces funds FFO and capital expenditure amounts. Free cash flow remains unchanged.

We do not adjust for the cumulative gross-up of PP&E resulting from interest capitalization, tax effects, or future depreciation effects. That is, we do not try to identify the portion of PP&E attributable to past interest capitalization, to reduce PP&E by the amount that would correspond to the expensed view taken on such interest capitalized in the past. It would be impractical to attempt to do so, given the lack of data available. Moreover, the more material impact tends to be to coverage and profitability measures, not to asset or equity-based ratios.

Adjustment procedures

Data requirements

- The amount of capitalized interest during the period.

Calculations

- Interest expense: add amount of capitalized interest.
- Capital expenditures, FFO, and operating cash flows: reduce by amount of capitalized interest that is reclassified as operating cash flows.

Captive Finance Operations

A captive finance operation (captive) functions primarily as an extension of a company's marketing activities. The captive facilitates the sale of goods or services by providing financing (in the form of loans or leases) to the company's dealers and/or end customers. The captive can be structured as a legally separate subsidiary, or as a distinct operating division or business line of the company. Captive finance units organized as separate subsidiaries are rated the same as their parents in the overwhelming majority of cases, meaning we view their default risk as indistinguishable from that of the parent.

Whatever the legal/organizational structure, the two businesses are not analyzed on a consolidated basis. Rather, we segregate financing activities from corporate/industrial activities and analyze each separately, reflecting the differences in business dynamics and economic characteristics, and the appropriateness of different financial measures. Our approach is to create a pro forma captive unit to enable finance company analytical techniques to be applied to the captive finance activity, and correspondingly appropriate analytical techniques to the pure industrial company.

Finance assets (e.g., loans receivable and leases)--along with appropriate amounts of financial debt and equity--are allocated to the pro forma finance company; all other assets and liabilities are included in the parent/industrial balance sheet. Similarly, only finance-related revenues and expenses are included in the pro forma finance company income statement. The debt and equity of the parents and the captives are apportioned so that both entities will reflect, in most cases, identical credit quality.

In our analytical methodology for captive finance operations, we attribute debt and equity to the pro forma finance company based on our assessment of the quality of the finance assets, taking account of factors such as underwriting standards, charge-off policy, quality of the collateral, and portfolio concentration or diversity. The adjusted financial measures are highly sensitive to assumptions we make about the leverage appropriate to the finance assets in question. We continue to refine our leverage guidelines for major finance asset types.

Adjustment procedures

Note: In almost all instances, financial statements fully consolidate majority-owned captive finance operations: Here, consolidated financial statements are assumed as the starting point. Where separate financial statements are also available for the finance unit, information from these can be used to refine the adjustment.

Data requirements

- On-balance-sheet finance receivables and leases, net;
- Finance receivables and leases sold or securitized--carried off-balance-sheet;

- Finance company revenues (if actual finance revenues are unavailable, we use 15% of total finance receivables);
- Finance company administrative expenses (if actual finance company expenses are unavailable, we use 3% of total finance receivables);
- Debt-to-equity ratio: determined to reflect our view of the "leveragability" of the captive's assets (on- and off-balance-sheet finance receivables and leases);
- Interest rate (the average rate experienced by the company); and
- Required fixed charge coverage--an interest coverage appropriate for the rating. (Often, 1.25x is used.)

Calculations

- Total finance assets: on-balance-sheet finance receivables and leases plus finance receivables and leases sold or securitized (carried off-balance-sheet).
- Finance company EBIT: finance company revenues minus noninterest expenses.
- Finance company debt: total finance assets times the debt-to-equity ratio/(1 plus the debt-to-equity ratio). This can never be more than reported consolidated debt; if so, the debt-to-equity ratio should be adjusted. (Separately, consolidated debt also is adjusted to reflect the debt equivalent of securitized assets and hybrid securities.)
- Finance company equity: total finance assets minus finance company debt.
- Finance company interest: most recent two-year finance company debt times interest rate.
- Finance company required EBIT: finance company interest times required fixed-charge coverage.
- Transfer payment: finance company EBIT minus finance company required EBIT (which can be positive or negative).
- Subtract finance company revenues from total revenues to derive adjusted industrial company revenues.
- Subtract finance company operating expenses, including depreciation, from total operating expenses to derive adjusted industrial company operating expenses.
- Industrial EBIT: adjusted revenues minus adjusted expenses plus transfer payment.
- Reduce reported interest by finance company interest, if reported captive finance company's interest is included in consolidated operating expenses; otherwise, no adjustment is required.
- Reduce reported debt (adjusted for securitized assets) by finance company debt.
- Reduce reported equity by finance company equity (after increasing total reported equity by the minority interests in the captive finance company's equity, if the captive is not fully owned, and its reported equity excludes minority interests).
- Remove the finance company's cash flows, including capital expenditures, from reported cash flows.

(Please see "Criteria: Request For Comment: Risk-Based Framework For Assessing The Capital Adequacy Of Financial Institutions," published Jan. 12, 2007; "Criteria: Captive Finance Operations," published April 17, 2007; and Finance Subsidiaries' Rating Link To Parent, in "Corporate Ratings Criteria 2006" edition, on RatingsDirect.)

Exploration Costs

Under some accounting systems, oil and gas exploration and production (E&P) companies may choose between two alternative accounting methods, full cost and successful efforts. These accounting methods differ in what costs these companies capitalize or expense. A successful-efforts-reporting company expenses the costs of unsuccessful exploration drilling (dry-hole costs) and exploration costs, such as geologic and geophysical expenditures (seismic surveys) and the costs of carrying and retaining undeveloped properties. In successful-efforts accounting, only exploratory drilling costs that result in the discovery and development of a commercial oil and gas field may be capitalized and amortized based on the field's proved reserves on a unit-of-production basis; all dry-hole

expenditures are expensed as incurred. Using the full-cost accounting method, all exploration and development expenditures are capitalized and amortized over the reserves of the related pool of properties.

Another difference is the size of the cost center used to amortize capitalized costs. Successful-efforts companies use smaller cost centers, such as a particular lease or field; full-cost companies generally use larger cost centers, which may be as large as an entire country.

We view successful-efforts accounting as more appropriate, given the highly risky nature of hydrocarbon exploration. Successful-efforts accounting does not have the potential to inflate equity and smooth earnings to the same degree as full-cost accounting. In general, large companies (e.g., major integrated companies) use the successful-efforts method, while smaller companies (e.g., independent E&P companies) use the full-cost system.

However, our analysis of exploration costs requires making comparisons between companies that use different accounting methods, which can best be accomplished by adding back exploration expense to EBITDA for successful-effort companies. (While we prefer the successful efforts approach, there is no practical way to adjust full cost users to a successful efforts method.) Exploration expense usually is disclosed on the face of the income statement of successful efforts companies. This number often is referred to as EBITDAX.

Given our preference for successful efforts, we limit this adjustment to EBITDA measures--and do not carry the adjustment through to all related accounts or to other ratios. Adjusting EBITDA usually suffices for comparative purposes. And, adjusting a successful efforts company's balance sheet to reflect what it would look like if it had used the full-cost method--or vice versa--is not really feasible. (Apart from the differences as to what companies can capitalize under the two methods, the rules for asset impairment tests also differ. The full-cost impairment test, called the ceiling test, generally is easier to violate because of higher asset carrying costs and its trigger mechanism. (If the book value of assets falls below the discounted present value of cash flows, a charge may be necessary. The trigger for ordinary impairment is related to the undiscounted future cash flows.)

Adjustment procedures

Data requirements

- Exploration expenses (only applies to E&P companies using the successful-efforts method of accounting).

Calculations

- Adjustment to operating income before depreciation, depletion, and amortization to calculate EBITDA: We add exploration expense back to operating income before depreciation, depletion, and amortization in the EBITDA calculation. This increases EBITDA and operating income before depreciation and amortization by the entire amount of exploration expense.

(Please see "Credit FAQ: Exploring Standard & Poor's Oil And Gas Company Reconciliation Tables," published Feb. 12, 2007, on RatingsDirect.)

Foreign Currency Exchange Gains/Losses

Foreign currency exchange gains/losses can be related to transactions or translations:

- Transaction gains/losses arise from transactions that are denominated in a currency other than the entity's functional currency (generally the currency in which the entity principally transacts). Examples include buying and selling goods or services whose prices are denominated in a foreign currency, borrowing or lending in a

foreign currency, or other contractual obligations denominated in a foreign currency. A change in the exchange rate will increase or decrease the amount of functional currency needed to settle the account between the time the transaction is recorded in the functional-currency accounts and the time it is settled, leading to exchange gains or losses. When translating the related accounts (e.g., loans receivable, accounts payable, and debt) into the reporting currency, such gains and losses are recognized in the income statement as incurred.

- Translation gains/losses occur when translating financial statements of a subsidiary from a local currency to the reporting currency of the enterprise for consolidation. Translation gains or losses are included in shareholders' equity (under U.S. GAAP, included in other comprehensive income for the period and in accumulated other comprehensive income in the owners' equity section of the balance sheet).

Foreign currency transaction gains/losses recognized in the income statement raise questions similar to those in Nonrecurring Items/Noncore Activity (see below). To present a representative view of operating performance and financial ratios, we typically adjust company income statements to exclude nonrecurring and other unusual transaction gains and losses.

Currency transaction gains and losses may be viewed as recurring or nonrecurring. We review transaction gains and losses and determine whether to adjust for them. We may adjust reported financial results for currency gains and losses that result from one-time or infrequent transactions; for example, we may adjust (or exclude) foreign currency gains or losses resulting from the infrequent purchase of a specialized capital asset payable in a foreign currency.

When the gains or losses result from recurring or ongoing transactions, we do not adjust. We consider transaction gains and losses as ongoing when the company has a history of entering into transactions denominated in foreign currencies. The purchase of inventory that is paid in a foreign currency is an example. Debt denominated in a foreign currency could also result in recurring foreign currency gains and losses that we would not adjust for.

Companies may not report currency gains or losses separately for recurring and nonrecurring transactions. Consequently, we may not make adjustments if the data are not available, or if the amount is immaterial. Our analysis must also take into account the potential for changes in actual cash flows that may be required to settle a transaction denominated in a foreign currency.

Translation gains/losses are not included in determining net income, but are included in shareholders equity (and, under U.S. GAAP, in other comprehensive income) as mentioned above. Companies generally translate assets and liabilities using the exchange rate at the balance sheet date. The income statement is translated at the exchange rate in effect at the time revenues, expenses, gains, and losses are recognized. The cash flow statement is translated using the exchange rate in effect at the time of the cash flow. As a practical matter, companies often use an average exchange rate for the reporting period for both income and cash flow statements. In addition, the cash flow statement reports the effects of exchange rate changes on cash balances held in foreign currencies on a separate line. We do not adjust the balance sheet, the income statement, or the cash flow statement for translation gains or losses included in other comprehensive income.

If a parent liquidates its investment in a foreign subsidiary (or investment), the amount of foreign currency gains or losses built up in equity are removed from equity and included in net income for the period. This amount should be excluded from income as a nonrecurring item (as would generally apply to the gain or loss resulting from the sale).

Adjustment procedures

Data requirements

- Amounts of nonrecurring (analytically determined) foreign currency exchange transaction gains and losses.

Calculations

- The amount of nonrecurring foreign currency gain or loss is added to or subtracted from operating income before and after D&A, EBITDA, and EBIT.

Guarantees

The accounting for guarantees can vary greatly. In many instances, a guarantee to support borrowings of unconsolidated affiliates or third parties is not recorded on the guarantor's consolidated balance sheet until it meets certain tests regarding probability of payment.

Alternatively, it may be recorded at the lowest amount in a range of possible outcomes or at a statistically calculated expected value (e.g., under IFRS, a contingent obligation may be measured at a probability-weighted figure of potential payment amounts). To illustrate, if the company estimates a 70% chance of having to pay nothing and a 30% chance of having to pay €1 million, then the company obligation would be measured at €300,000, an amount that has no probability of being paid.

We may take a different approach, to reflect our own assessment of the risk of ultimately being required to pay (upon the default of the other party).

We add the guaranteed amount to the guarantor's total debt, unless the other party is sufficiently creditworthy (i.e., investment grade) in its own right, or if we assess the likelihood of payment at a lower amount. (Interest is not imputed on such adjustment items, because the potential obligation may materialize far in the future, and there is no current need to service that potential obligation.)

In the case of an affiliate, we consider the possibility of support for the borrower's debt even absent a formal guarantee.

Performance guarantees are treated differently, because there should be little impact as long as the company maintains its work or product quality. Construction companies often provide performance guarantees as a condition in work contracts.

A company's track record of payments for performance guarantees could be an indicator of the amount of potential future liability. Only if the track record gives us specific reason for concern would we attempt an estimate of the liability--and add that amount to debt for ratio calculations.

Adjustment procedures

Data requirements

- Determine the value of the guarantees on and off the balance sheet to be added to debt, net of tax benefit, as applicable.

Calculations

- Debt: Add the amount of off-balance-sheet debt-equivalent; reclassify as debt the amount of on-balance-sheet

liability.
- Equity: Subtract amount of off-balance-sheet debt-equivalent.

Hybrid Instruments

Hybrid instruments have some characteristics of debt, and some of common equity. The more weight the latter carries, the more equity content we attribute to the instrument. We classify corporate hybrids' equity content as minimal, intermediate, or high.

How to reflect hybrids in credit ratios is not a simple question. For many years, we did not divide the amounts involved in proportion to the equity content of the specific security, believing the resulting numbers could be misleading. As an example, a company might pay the stipulated periodic amount or defer it; under no scenario would it defer a fraction of the payment: Therefore, calculating a fixed-charge coverage ratio with a fractional amount has little intuitive meaning.

For hybrids with intermediate equity content, we instead computed financial ratios both ways--viewed alternatively, as debt and as equity. Two sets of coverage ratios were calculated--to display deferrable ongoing payments (whether technically dividends or interest) entirely as ordinary interest and, alternatively, as an equity dividend. Similarly, two sets of balance-sheet ratios were calculated for the principal amount of the hybrid instruments, displaying those amounts entirely as debt and entirely as equity.

For hybrids, analytical truth lies somewhere between these two perspectives, and analysts have been--and are--encouraged to continue viewing hybrids from all perspectives--i.e., computing ratios with the security as debt and, alternatively, as equity; to interpolate between the sets of ratios to arrive at the most meaningful depiction of an issuer's financial profile; and note and give effect to each more-equity-like or less-equity-like feature of various hybrids in the same category, although such nuances play, at most, a very subtle role in the overall rating analysis.

However, we changed our methodology in 2006 because it proved too challenging to communicate our previous, more abstract approach--and issuers, in particular, had trouble appreciating the potential impact on our view of their financial profile. Notwithstanding the issues mentioned above, we adopted the following adjustments (after adjusting convertible debt issued by IFRS reporting companies as described below):

- For hybrids in the intermediate category, we calculate ratios with outstanding amounts (excluding unpaid accrued remunerations) split 50-50: One-half of the principal is categorized as debt and one-half as equity; one-half of the period payments is treated as common dividends and one-half as interest. (There is no adjustment to taxes.) This set of ratios is used as the basic adjusted measures, and these are the ratios we publish.
- Hybrids with minimal equity content are treated entirely as debt for calculating ratios.
- Hybrids with high equity content are treated entirely as equity for calculating ratios.
- Unpaid dividends that have accrued, prior to period end, are viewed as debt--even for equity-like securities.

Convertible debt is not treated as a hybrid--unless the conversion is mandatory, or it features appropriate tenor, subordination, and deferability characteristics. While IFRS and other accounting regimes split the issued value of a convertible debt obligation between its pure debt component (the fair value of a similar debt obligation without the conversion feature), accounted for as debt, and the embedded conversion feature (the difference between the debt component and the issue price), accounted for as equity, such convertible debt generally does not attract any equity credit in our methodology. Rather, we adjust reported debt by the value of the conversion option included in shareholders' equity. Cash-based measures such as FFO continue to reflect only the actual cash cost of the

convertible debt, based on the coupon rate.

Adjustment procedures

Data requirements

- Amount of hybrid instrument in the balance sheet and shareholders' equity;
- Amount of associated expense and payments in the period; and
- Amounts of accrued unpaid interest/dividends.

Calculations

- A high-equity-content hybrid reported as equity is treated as reported, as are its associated dividends. However, accrued dividends are included as debt.
- A high equity content hybrid reported as debt is removed from debt and added to equity. The associated interest charge is removed from interest expense and treated as a dividend. Additionally, interest payments are also adjusted as dividends in the FFO and operating cash flow calculations.
- An intermediate equity content hybrid reported as equity (e.g., preferred stock) has 50% of its value removed from equity and added to debt. Also, 50% of the dividend amount is removed and added to interest expense and interest paid, affecting the FFO and operating cash flow calculations.
- An intermediate equity content hybrid reported as debt has 50% of its value removed from debt and added to equity. Also, 50% of the associated interest is removed from interest expense and interest paid and added to dividends.
- A minimal equity content hybrid reported as equity is removed from equity and added to debt. Its associated dividends are added to interest expense and interest paid, thereby also reducing FFO and operating cash flow.
- A minimal equity content hybrid reported as debt is treated as reported, as is its associated interest.
- The accrued unpaid charges on hybrid instruments are categorized as debt.

Note: For optionally convertible instruments, prior to the reclassifications above, we recombine the instrument's issued amount (amortized cost) if it has been bifurcated (as described above, notably for IFRS-reporting companies). We also adjust the period's expense, where necessary and practicable, to equal the instrument's debt component multiplied by the company's refinancing rate, at the convertible's issuance date, for the equivalent nonconvertible instrument.

(Please see "Criteria: Equity Credit For Corporate Hybrid Securities," published May 8, 2006, on RatingsDirect; "Criteria: Clarification Regarding Step-Ups Used In Equity Hybrids," Aug. 9, 2007; and "Criteria: Standard & Poor's Announces Several Refinements To Its Hybrid Capital Criteria," Oct. 30, 2007.)

LIFO/FIFO: Inventory Accounting Methods

The choice of inventory accounting methods under U.S. GAAP between FIFO, LIFO, weighted average, and specific identification can provide dramatically different results for peers that engage in the same underlying activities. This issue is more pronounced in sectors that are inventory-intensive, and in particular, where inventory prices fluctuate significantly.

The challenge of comparing peers increases on a global dimension. Similar choice of accounting options exists in generally accepted accounting standards other than U.S. GAAP--while LIFO, widely used in the U.S., is not permissible under many other accounting standards, including IFRS. Tax treatment of permissible inventory costing

methods is a key driver in management's decision to elect a method, and varies significantly by jurisdiction. (For example, LIFO is permitted for tax-reporting purposes in the U.S., and those who elect LIFO for tax purposes must also use it for their financial statement reporting.)

Moreover, some companies use a combination of costing methods. For example, management may elect to use the LIFO method for a portion of inventory in which prices are expected to rise and FIFO for the balance. In other instances, inventory reported on a consolidated financial statement can include inventory balances of subsidiaries in different countries, each of which use different accounting methods.

The greatest potential disparity of financial results is between FIFO and LIFO accounting methods. In a period of rising prices, the LIFO method results in a lower income than FIFO, because the most recent costs flow into cost of goods sold on the income statement, and the oldest costs are reflected in inventory on the balance sheet. Furthermore, cash flows are temporarily improved, because current income taxes are lower as a result of the lower income. Apart from intercompany comparisons, different methods can skew the perspective of corporate performance. For example, LIFO provides a better reflection of matching costs against revenues on the income statement, but creates a balance-sheet distortion by having older costs residing in inventory. The FIFO method, on the other hand, provides a more current valuation of inventory on the balance sheet, but can significantly understate cost of goods sold in a period of rising prices, resulting in artificially overstated income.

- Balance sheet: Where significant to our analytical process or essential for peer comparability, we add back the LIFO reserve to inventory amounts on the balance sheet for companies that use the LIFO method. This enables us to reflect inventory balances at approximate current market value. (Companies that apply the LIFO method are required to disclose what the inventory valuation would be under FIFO, through an account called the LIFO reserve, which represents the cumulative effect on gross profit from the use of the LIFO method.) A corresponding adjustment, net of tax, is made to equity.
- Income statement: We do not adjust the income statement when companies use LIFO, believing the LIFO method results in costs of goods sold that are more indicative of replacement-cost values, and the best matching to revenues. While it might be desirable to adjust for those companies that use FIFO or average costs methods, the data generally are unavailable.
- When a company using the LIFO method has inventory balances that decrease over a period of time, LIFO liquidation may result. It means that older, less-recent layers of inventory are turned into cost of goods sold as a result. (These are older in terms of their accounting, not necessarily in any physical sense.) Assuming an inflationary environment, cost of goods sold is reduced, and as a result, income increases because of LIFO liquidation gains. To capture the true sustainable profitability of a company, the gains generated from LIFO liquidation generally are excluded from our current profitability measures and ratios.
- Cash flows: We typically do not adjust the cash flows, but we consider, qualitatively, the boost to cash flows the LIFO method affords during periods of price inflation (via taxes deferred to future periods).

Adjustment procedures

Data requirements

- For the balance-sheet adjustments: LIFO reserve; and
- For the income statement adjustments: LIFO liquidation gains.

Calculations

The balance sheet adjustments affect inventory (assets) and equity.

- LIFO reserve is added to inventory (assets).
- Equity is increased by the LIFO reserve (after-tax).

The income statement adjustment affects operating income before and after D&A, and EBITDA and EBIT.

- LIFO liquidation gains are deducted from operating income when calculating operating income before and after D&A, and EBITDA and EBIT.

Litigation

We make case-by-case judgments regarding the probability of a negative outcome, the potential financial effect, and its timing, including duration of any appeals process. We also regularly obtain additional data from the company involved, on a confidential basis, to enable a more meaningful analysis of plausible scenarios. These might include any available legal opinions and research; the company's legal strategy; and the number, size, and status of claims. To assist us, we may consult legal counsel to evaluate likely scenarios. This includes in-house legal staff, external counsel, and/or industry-related counsel.

To the extent that a monetary judgment is predictable, we size the amount that will be paid and treat it as a debt-equivalent. If payment is not imminent--if, for example, there is an extended appeals process--we would estimate the time until actual payment, and discount the eventual payment amount unless interest will be added. The adjusted debt ratios are calculated including the present value of the estimated payout, on an after-tax basis. Where applicable, we subtract any expected insurance recoveries.

It usually is very challenging to size litigation outcomes. Previous cases of similar nature can serve as benchmarks. Subjective judgments regarding the merits of a case may also inform our view of possible outcomes.

Sometimes, the company's litigation reserves recorded in its financial statements can offer insight. Companies must reserve for litigation they can quantify. In practice, most companies tend to minimize legal reserves (although some companies--especially European companies--will over-reserve to enable smoothing of future earnings). Therefore, to the extent that a company does reserve, one may ordinarily conclude there is a high likelihood that required payments will be at least that amount. The company's reserve is not a reliable indicator that the ultimate liability will not exceed that amount. In any event, providing reserves is merely an accounting recognition of the liability; it doe not mean the company has put aside cash to fund the liability. We would still need to adjust the debt figures to reflect the cash impact that a payment would entail. (On the other hand, there often will be a lengthy period until payment is made, so we also consider the company's ability to generate cash in the interim.)

A class-action suit permits a large number of individual claims to be combined and tried as one lawsuit. We view class-action lawsuits as the most troublesome type for credit quality because of the potential size of awards. Class-action suits must be certified by a court to proceed to trial; however, once certified, the lawsuit often takes years to wind through the litigation process.

Outside the U.S., litigation is less significant as a credit risk than in the U.S. Typically, there is no award of punitive damages, class actions are limited, and/or trials may not come before juries that can react unpredictably to the litigation.

Because the specific financial effect of a lawsuit is difficult to quantify accurately, we may rely on analytical

techniques such as calculating ranges of outcomes or performing sensitivity analysis. This can be very helpful if it allows us to conclude, for example, that the company can manage even the more dire potential outcomes without materially affecting its financial profile. Alternatively, if significant uncertainty remains, we might consider a downgrade based on a very large risk exposure.

Litigation poses several important, potentially troubling considerations beyond any direct financial consequences. We consider the potential damage to a company's reputation or ability to conduct normal business operations. For example, product liability cases sometimes result in the product's being removed from the market. Substantial litigation may require an inordinate amount of management time and create quite a distraction from running the business.

More broadly, lawsuits can affect a company's reputation and/or its ability to garner further business or raise capital. Public mistrust and a negative perception of the company's operating strategy would definitely be of concern.

Last, but not least, bonding requirements can pose a tremendous liquidity challenge, especially in jurisdictions that have no bonding caps. Bonding can tie up cash that could otherwise be invested in the business, even if it does not pose an immediate threat to solvency. (Naturally, in the case of litigation expected to benefit the company, similar adjustments apply, in reverse.)

Adjustment procedures

Data requirements

- Determine the value of the litigation exposure to be added to debt.

Calculations

- Debt: Add the amount of debt equivalent (net of tax benefit, as applicable) to debt.
- Equity: Subtract the amount of off-balance-sheet debt equivalent, net of tax.

(Please see "How Litigation Risk Affects Corporate Ratings," published Nov. 28, 2005, on RatingsDirect.)

Nonrecourse Debt Of Affiliates (Scope Of Consolidation)

In the context of corporate debt analysis, nonrecourse debt often refers to a situation in which an affiliate or subsidiary of a company borrows funds, possibly pledging its assets as collateral, while the parent company and other subsidiaries in the corporate structure have no legal obligation to perform under the borrowing agreement. If an event of default occurs, the lender's claims are limited solely to the subsidiary that borrowed the money.

Nonrecourse debt may exist for a variety of reasons. A company may want to legally isolate the bankruptcy risk of a subsidiary, for example, because the subsidiary's business prospects are more unpredictable than those of the parent. Also, nonrecourse debt may result from a particular jurisdiction's legal requirement to operate locally through a separate legal entity. In other cases, a company may own only a portion of a subsidiary, maybe even a minority interest, and the company may be unwilling to put itself on the hook to fund the obligations of the joint venture.

In nonrecourse structures, the parent company has the legal right to walk away from the troubled (or bankrupt) subsidiary. This often is a by-product of corporate law and related legal isolation doctrines related to entities structured as corporations or other limited-liability structures. Notwithstanding the theory, history has shown this often is not the way things play out. The parent company often ends up providing economic support to the

subsidiary, despite the nonrecourse nature of the obligation.

In analyzing these situations, we attempt to understand the relationship between the parent and subsidiary, and make a judgment about whether the parent would be inclined to step in (and to what extent). Predicting the outcome of such a scenario is not an exact science, but we believe that considering plausible scenarios is superior to relying solely on the legal framework, and ignoring the economic relationship extant between the entities.

The relationships between the affiliated entities can vary greatly. The entity issuing the debt considered to be nonrecourse may simply represent a noncore, nonstrategic investment; if so, the parent is not burdened with the subsidiary's debt obligations.

At the other end of the spectrum, the subsidiary's operations may be characterized as an integrated business. The analysis would then fully consolidate the subsidiary's financial statements, including debt. Furthermore, the risk profile of the subsidiary's operations would be integrated with the overall business risk analysis of its parent.

Often, the subsidiary issuing the debt may not fall neatly into either category; it may lay somewhere in the middle of the spectrum. Sometimes we use a pro rata consolidation to reflect this middle ground. For example, we would apply pro rata consolidation to joint ventures between partners of comparable capacity and willingness to support for their respective strategic reasons. Even in cases that do not call for analytical consolidation, we presume there will be additional investment in the nonrecourse entity, i.e., the money the company likely would spend to provide support or bail out the unit in which it invested.

No single factor determines the analytical view of the relationship with the affiliate; rather, several factors, taken together, will lead to one characterization or another, including:

- Strategic importance--integrated lines of business or critical supplier;
- Percentage ownership (current and prospective);
- Management control;
- Shared corporate name;
- Domicile in same country;
- Common sources of capital and lending relationships;
- Financial capacity for providing support;
- Significance of amount of investment;
- Investment relative to amount of debt at the venture or project;
- Nature of any other owners (strategic or financial; financial capacity);
- Management's stated posture;
- Track record of parent company in similar circumstances;
- Nature of potential risks;
- Shared collective bargaining agreements; and
- Jurisdiction's bankruptcy-law regime.

Adjustment procedures

There is no standardized adjustment, given the multiple fact patterns and subjective nature relating to subsidiaries/projects/joint ventures. As explained above, some consolidated entities--and their liabilities--might be deconsolidated, while some nonconsolidated entities may be consolidated.

Another possible adjustment is pro rata consolidation. This approach is not used too frequently and typically applies only when both owners have similar financial profiles and motivations with respect to a joint venture.

Note that even in cases where we conclude that the liability will not ultimately be supported, we could well expect that the owner would extend partial support to the venture or subsidiary, including additional investments to attempt to rescue it. We would try to size such additional expenditures--and impute that amount as debt to the parent.

(Please see "Corporate Ratings Criteria, 2006 edition: Parent/Subsidiary Links", and "Credit FAQ: Knowing The Investors In A Company's Debt And Equity," published April 4, 2006, on RatingsDirect.)

Nonrecurring Items/Noncore Activities

We typically make adjustments to a company's reported operating income and cash flow to remove items we consider nonrecurring and include those we consider recurring, so the historical financial ratios will be more indicative of future performance. These adjustments cover items including discontinued operations; effects of natural disasters; gains or losses on asset sales and sale/leasebacks; and one-time charges for asset write-downs, restructurings, and plant shutdowns.

We review each potential nonrecurring item, and determine whether to adjust for it. Our view of these items may differ from the company's view, as presented in financial statements or footnotes.

We may view some supposedly one-time restructurings as ongoing for a particular company. Taking such a view may reflect a company's history of recurring restructuring charges, or the perceived need to address either company-specific or industrywide competitive issues (for example, the need to move facilities offshore in order to be cost competitive).

We may also view certain other items that company management characterizes as one-time items as normal operating costs: In the retail industry, we do not typically view inventory write-downs or high store pre-opening costs from a rapid expansion program as unusual items.

In a similar vein, we often distinguish between a company's core business activity and other, ancillary activities--especially if there is some question about the latter's sustainability. A manufacturer may earn money from trading activity; it may even set up its treasury operations as a profit center, but we may isolate, reclassify, and separately analyze the results of those operations.

For income derived from the sale and licensing of corporate assets, we similarly distinguish between sustainable, ongoing sales and those that are more opportunistic. Ancillary activities can distort measures of core operating performance, and peer analyses that rely on comparability of data, unless adjustments are made. An analogy can be drawn to the analytical segregation of nonhomogenous activity. Some GAAP rules may require consolidation if a company owns both manufacturing and finance subsidiaries: We would separate the two for analytical purposes.

These adjustments require an appreciation of industry-specific contexts. For example, in the high technology industry, companies dedicate substantial amounts of capital to R&D efforts and accumulate intellectual property in the form of patents, trade secrets, domain names, etc., which may be sold or licensed to complement revenues generated from core operations.

We consider revenue generated from the licensing of intellectual property to be a part of operating income, and

therefore a component of EBITDA, because this arrangement allows for a relatively predictable, recurring source of revenue. However, revenue generated from the sale of intellectual property is not considered part of operating income. While there may be advantages in selling intellectual property, rather than licensing--e.g., the receipt of greater upfront proceeds or the elimination of future responsibilities--this arrangement normally is treated as nonoperating income.

In other situations, the sale of assets may be considered recurring. For example, companies that lease or rent automobiles or industrial equipment routinely and periodically dispose of these assets via auctions and/or other sales.

Adjustment procedures

Data requirements

- Amounts of income, expense, and cash flows to be reclassified (including nonrecurring items reported as operating, and recurring items not reported as operating). These amounts are judgmentally determined, based on information disclosed and our assessment.

Calculations

- Add or subtract amounts from respective measures, (e.g., revenue, operating income before and after D&A; D&A; EBIT; EBITDA; operating cash flows and FFO) to reclassify as appropriate. Because operating cash flows and FFO are post-tax measures, they also are adjusted to reflect the tax effects, where feasible.
- Beyond the standard adjustment, additional insights may be gleaned by adjusting individual line items within cost of goods sold or selling, general, and administrative (SG&A) expense, if there is sufficient data to reflect adjustments at such levels. Similarly, ancillary activities data are segregated and separately analyzed, to the extent practicable with available data.

Operating Leases

Companies commonly use leasing as a means of financing. The accounting for leases distinguishes between operating and finance leases. Finance leases (also referred to as capital leases) are accounted for in a manner similar to a debt-financed acquisition of an asset, while many operating leases are reflected in the accounts on a pay-as-you go basis. We view the accounting distinction between operating and capital leases as substantially artificial. In both cases, the lessee contracts for the use of an asset, entering into a debt-like obligation to make periodic rental payments.

Our lease adjustments seek to enhance comparability of reported results (both operating and financial) and financial obligations among companies whether they lease assets under leases accounted for as operating or financing leases, or use debt to finance asset acquisition. The operating-lease-adjustment model is intended to bring companies' financial ratios closer to the underlying economics and more comparable, by taking into consideration all financial obligations incurred, whether on or off the balance sheet. The model improves our analysis of how profitably a company employs its leased and owned assets.

Our model does not fully replicate a scenario in which a company acquired an asset and financed it with debt; rather, our adjustment is narrower in scope: It attempts to capture only the debt equivalent of a company's lease contracts in place. For example, when a company leases an asset with a 20-year productive life for five years, the adjustment picks up only the payments relating to the contracted lease period, ignoring the cost of the entire asset

that would have been purchased--and depreciated--by a company that chose to buy instead of lease. We have chosen not to use alternative methodologies that capitalize the entire asset because they entail various data and interpretation challenges. In cases where the company has an economic need to use the asset for longer than the lease term, we take account of this qualitatively; however, if the lease is viewed as artificially short, and there is adequate information, such as for sale/leaseback transactions, we capitalize the entire sale amount.

Adjustment procedures

Data requirements

- Minimum lease payments: Noncancelable future lease payment stream (and residual value guarantees if not included in minimum lease payments); discount factor; annual lease-related operating expense for the most recent year; and deferred gains on sale leaseback transactions that resulted in leases accounted for as operating.
- Future-lease payment data are found in the notes to the financial statements. Annual payments for the coming five years (itemized by year) and the aggregate amount for subsequent years are provided under U.S. GAAP. Our model assumes that future payments for years beyond the fifth year approximate the fifth-year amount. Under IFRS, companies are permitted to disclose amounts payable in years two through four in a single combined amount, instead of disclosing separate amounts for each of the next five years. In this case, we assume a flat level of payments in years two through four, based on the total minimum lease payment disclosed for these three years. This approximation--caused by the limited disclosure--does not capture how future payments may decline in these years. Future lease payments are considered net of sublease rental only when the lease and sublease terms match and the sublessee is sufficiently creditworthy.
- The discount factor is determined in one of the following ways: ideally, the imputed discount rate associated with the lease would be used, but rarely is available, and unlikely to be available for all companies in an industry; use the average rate on the company's secured debt; and/or use a rate imputed from the company's total interest expense and average debt.
- Annual operating-lease-related expense is sometimes available in the notes and will be used. When the amount is not separately disclosed (e.g., when presented with contingent rent and other amounts, or incorporated with other costs), it is estimated using the average of the first projected annual payment at the end of the most recent and prior year.

Calculations

- Debt: The present value of the payment stream, determined using the discount factor, is added to debt. (Lease debt is not tax-effected because its taxes will never reflect the analytical construct underlying our adjustment. The company is, in fact, getting the tax treatment afforded to leases--assuming GAAP and tax treatment as operating lease is the same. The actual tax amounts are those included in the accounts--and generally require no adjustment. This contrasts with PRB and ARO adjustments, which may be tax-effected. Those adjustments are based on the anticipation that tax-deductible recognition of the obligations will ultimately be required.)
- Operating income and cash flow measures: The operating-lease-related expense is apportioned to interest and depreciation components, as described below. The effect is to increase operating income measures: SG&A, by the entire amount of the expense; EBIT, by the implicit interest portion; EBITDA, by the implicit interest portion; and FFO, by the implicit depreciation portion. In addition, operating income would be adjusted to reverse gain or loss on sale/leaseback transactions.
- Interest expense: Interest expense is increased by the product of the discount rate multiplied by the average first-year projected payment for the current and previous years.

- Depreciation: Operating lease depreciation, i.e., the operating-lease-related expense amount less the calculated lease interest, is added to depreciation expense. (We deliberately calculate EBITDA without adding back the imputed depreciation component, despite the apparent definitional conflict. The cash flow characteristics of leasing do not neatly conform with the alternative of borrowing to acquire--even though our adjustment attempts to equate them. Lease payments represent ongoing cash outflows--quite different than depreciation, or even amortization of asset acquisition-related debt.)
- Capital expenditures: Capital expenditures are increased by an implied amount calculated as the year-over-year change in operating lease debt plus annual operating lease depreciation. This amount cannot be negative. Capital expenditures are also adjusted in the same fashion for capital leases.
- Property plant & equipment: Operating lease debt is added to PP&E to approximate the depreciated asset cost.

Postretirement Employee Benefits/Deferred Compensation

Defined-benefit obligations for retirees, including pensions and health care coverage (collectively referred to as PRB), and other forms of deferred compensation are financial obligations that must be paid over time, just as debt must be serviced, so we include them in debt ratios. A company may prefund the obligation or part of it (and companies often do prefund their pension obligations), which offsets the financial burden. Our objective, therefore, is to reflect the level of underfunding of defined-benefit pension obligations, as well as typically unfunded health care obligations and retiree lump-sum payment schemes, and other forms of deferred compensation. In arriving at adjusted financial measures, we must undo accounting shortcomings that affect balance sheets, cash flow statements, and income statements (under most current GAAP). The adjustments pertain to obligations already incurred, without trying to capture future levels of liability.

When PRB obligations constitute a major rating consideration, we delve more deeply into the company's particular circumstances and its benefits plans. Also, for some companies, funding and liquidity considerations surrounding retiree obligations can be much more important to the credit profile than imputing debt to the financial ratios. This situation typically pertains to speculative-grade companies that tend to have fewer available resources for cash requirements, including meeting mandated funding of PRB obligations.

We do not include in debt any amounts for defined-contribution plans, because they entail no obligations or risks to the sponsor related to past services beyond the current period's payments. We also have a slightly different position regarding multiemployer plans, not otherwise dealt with here. (See "Standard & Poor's Approach To Analyzing Employers' Participation In U.S. Multi-Employer Pension Plans," published May 30, 2006, on RatingsDirect.)

A key difference between debt and PRB obligations is the inherent measurement uncertainty, as the benefits and related assets, to the extent they are funded, are variable. Quantifying PRB obligations relies on numerous assumptions, including:

- Employee turnover rates and length of service, according to which benefits vary;
- Mortality rates and dependency status/longevity assumptions, as the employee and his/her dependents' lifespan determine how long the benefit will be paid;
- Future compensation levels, to the extent wages prior to retirement are a factor in determining the amount of the benefit;
- Health care cost inflation, use, and delivery patterns; and
- Discount rate assumptions required to calculate a present value of the future required cash outflows.

Standard financial adjustments cannot easily factor in deviations from normal assumptions on these measurement

drivers. However, for some factors, the analysis can, at least, gauge the sensitivity to changes in those assumptions. For example, a rough rule of thumb is that for each percentage point increase or decrease in the discount rate, the liability decreases or increases by at least 10%, and often by 15%-20%. (The more mature the plan, or the higher the market interest rates, the lesser the impact.)

To simplify the numerical analysis, we combine all retiree benefit plan assets and liabilities, for pension, health, and other obligations, netting the positions of a company's plans in surplus against those that are in deficit.

In theory, and in the long term, companies with multiple plans should be able to curtail contributions to overfunded plans and redirect contributions to underfunded plans. In the near term, however, funding surpluses are often hard to tap--and may have adverse tax consequences if drawn--even while cash contribution requirements may be onerous on other, underfunded plans. But, if meeting near-term cash requirements is an important issue for a particular company, its credit profile likely will be driven by liquidity considerations, while debt ratio levels would be of secondary importance.

We focus on the measure of the obligation that reflects a going-concern view. For example, under U.S. GAAP for pensions, this is the projected benefit obligation (PBO), or an equivalent actuarial measure of the ultimate liability. The going-concern view of the company includes the effect of expected wage increases if the benefit attributable to past employment services is tied to employee compensation according to some formula. However, for collectively bargained labor contracts, the PBO does not take account of expected wage increases beyond the term of the existing contract.

We do not use the accumulated benefit obligation (ABO), which takes into account only the benefits payable upon plan termination at period end, or the vested benefit obligation (which is no longer disclosed under U.S. GAAP), because they reflect a shutdown value perspective, rather than an ongoing firm perspective. Similarly, in the U.K., we do not focus on the value of beneficiaries' claims based on a full buyout basis (i.e., based on the price prevailing on the annuity market, where demand is currently insufficiently covered by supply), which often considerably exceeds the amount equivalent to PBO under IFRS or U.K. GAAP. (The ABO and full buyout value are more appropriate measures in our recovery and subordination analyses.)

For other postretirement obligations--including medical liabilities, we use a measure equivalent to the pension PBO. For example, under U.S. GAAP, this is the accumulated postretirement benefit obligation (APBO).

We tax-effect our PRB adjustments--unless the related tax benefits have already been, or are unlikely to be, realized. We use the rates applicable to the company's plans, or, if this is unavailable, the current corporate rate--even while recognizing that fiscal reality may be more complex or dynamic as the company's fortunes change over time. In the typical situation, the company has credible prospects of generating sufficient future taxable income to take advantage of PRB-related deductions and reduce future tax payments. When a company's ability to generate profits is indeed dubious, we would not tax-effect. Moreover, in such cases, the company likely would be so pressured that liquidity--rather than capitalization or coverage levels--would be the overriding analytical focus.

Capital structure

We adjust capitalization for PRB effects by adjusting both debt and equity, where applicable. Debt is grossed up by the company's tax-effected unfunded PRB obligation. Equity is adjusted by the difference between the amount accrued on the corporate balance sheet and the amount of net over/underfunded obligation (net surplus/deficit), net of tax.

Companies following U.S. GAAP recently adopted SFAS 158, and record the unfunded PRB obligation on their balance sheets; companies following IFRS have the option to fully recognize actuarial gains and losses on their balance sheets. Accordingly, our equity adjustment is no longer required in many instances.

Debt is not adjusted down for net surpluses, so net overfunding (surplus) leaves debt unchanged. Equity can be adjusted up (if the net recognized asset is less than the pretax surplus) or down. We do not split the debt adjustment between short- and long-term.

Although the surplus is not treated as a cash equivalent, it nonetheless can be of value, especially to obviate future contributions. Sometimes it becomes evident that the amount is unrecoverable or cannot be used to offset future contributions. Given inconsistent accounting disclosure regarding the recoverability of surpluses, we rely on inquiries to company management.

Cash flow

We try to identify catch-up contributions made to reduce unfunded obligations, which would artificially depress reported operating cash flows. We view these contributions as akin to debt amortization, which represents a financing, rather than an operating cash flow. Specifically, cash paid (plan contributions plus benefits paid directly to beneficiaries) exceeding the sum of current-period service and net interest costs (that is, interest cost net of actual or expected returns on plan assets) is added back to FFO on a tax-effected basis. We look at actual investment returns for the period and returns normalized for potentially nonrecurring, unusually high or low performance.

Conversely, if the company is funding postretirement obligations at a level substantially below its net expense (service cost and net interest cost), we interpret this as a form of borrowing that artificially bolsters reported cash flow from operations.

In order to appropriately interpret adjusted numbers, note that our cash flow adjustment:

- Reallocates to the period certain costs (service and interest) that often differ from the cash impact in the period;
- Ignores prior service costs and other items such as curtailments, settlements and special termination benefits, and foreign-exchange variations;
- Ignores any income or charge (whether through income-statement or directly recognized into equity) that reflected the recognition of actuarial gains and losses; and
- Until early 2006, was capped at zero (no longer the case).

Income statement

In analyzing profitability (including operating profit and EBITDA), we disaggregate the benefits-cost components that may be lumped into operating income and expenses, allocate the amounts to operating and financial components, and eliminate those components we believe have no economic substance. The period's current service cost--reflecting the present value of future benefits earned by employees for services rendered during the period--is the sole item we keep as part of operating expenses.

The components, if any, that represent accounting artifacts and stem from the smoothing approach of the accounting rules--e.g., amortization of variations from previous expectations regarding plan benefits, investment performance, and actuarial experience--are eliminated from our income measures. As a result of these adjustments, pretax and after-tax income no longer match reported amounts.

Interest expense, which results from applying the discount rate to the beginning-of-period obligation to accrete the

liability with the passage of time for the reporting period, is essentially a finance charge--and is reclassified as such, if reported differently.

The expected return on plan assets represents management's subjective, long-range expectation about the performance of the investment portfolio; in some accounting systems--such as U.S. GAAP--it may be applied to a smoothed, market-related value, rather than the fair-market values of the assets. We may choose instead to apply a standardized return, to gauge what multiyear average returns can be expected. We note the risks in the asset mix, but only subjectively. (In the future, we may find a way to reflect the risk profile of the portfolios in a more quantitative manner.)

Either way, the return on plan assets is netted against PRB-related interest expense up to the amount of the interest expense reported, but not beyond, as the economic benefits to be derived from such overage are limited. If, however, the actual return is negative, the full amount is treated as an addition to interest expense because the resulting economic detriment to the company is quite tangible.

Adjustment procedures

Data requirements

For the income and cash flow adjustments, amounts for the period of:

- Service cost;
- Interest cost;
- Expected return on plan assets;
- Actual return on plan assets;
- Actuarial gains/losses (amortization or immediate recognition in earnings);
- Prior service costs (amount included in earnings);
- Other amounts included in earnings (e.g., special benefits, settlements/curtailments);
- Total benefit costs; and
- The sum of employer contributions and direct payments made to participants.
- For the balance-sheet adjustments:
- PRB-related assets on the balance sheet, including intangible assets, prepaid or noncurrent assets, or any other assets;
- PRB-related liabilities on the balance sheet, including current and noncurrent liabilities;
- PRB-related deferred tax assets (or tax rate applicable to PRB costs);
- Fair value of plan assets; and
- Total plan obligations.

Note: Relevant pension and other postretirement benefit amounts are combined for all plans.

Calculations

Income-statement adjustments include adjustments to expenses and interest.

- Total PRB costs charged to operating income, less the service cost, yields the PRB adjustment to operating income. This is added to operating income before and after D&A, EBIT, and EBITDA.
- Interest cost less the expected return is PRB interest. In some cases, we may adjust expected returns to normalize it at a more realistic level. If net PRB interest is a cost, we include it in adjusted interest expense (we do not reduce

interest expense if expected returns exceed interest cost). This PRB interest is added to reported interest when the net benefit costs are included in operating income. If reported interest already includes an interest component for PRBs (e.g., as may be the case under IFRS), we adjust it, if necessary, to ensure it reflects the amount of PRB interest cost. A similar calculation is made using the actual, rather than expected, return on plan assets.

The adjustment to FFO starts with a calculation of excess contributions or PRB borrowing:

- Total employer contributions (including direct payments to retirees), less service costs, less interest costs, plus expected return yields the excess contribution, if positive, or PRB borrowing, if negative. (A similar calculation is made using actual, rather than expected return.)
- The excess contribution or PRB borrowing is reduced by taxes at the rate applicable to PRB costs. That is, the amount is multiplied by (1 minus the tax rate) to create the PRB adjustment to FFO.
- The excess contribution on PRB borrowing is added or subtracted to or from FFO.

The balance-sheet adjustments affect assets, debt, and equity.

- Plan obligations less assets equals the net pension and postretirement funded status (deficit or surplus).
- The net balance sheet asset (liability) position is determined as the balance sheet assets less liabilities. For the adjustment to debt, if net pension and postretirement funded status is a surplus, debt is not adjusted. If the net pension and postretirement is a deficit, this amount is reduced by the expected tax shield, that is, the amount is multiplied by (1 minus the tax rate).
- In some jurisdictions, the tax benefit is realized in advance of funding the deficit or paying benefits, for example, when the liability is accrued for tax purposes. The expected tax shield used in our calculation only takes into account amounts that have not yet been received. The adjustment to equity also considers existing balance sheet amounts.
- Equity is adjusted for the tax-effected difference between the deficit/surplus and the net balance sheet assets/liabilities, i.e., multiplied by (1 minus the tax rate).

Unlike the adjustment to debt, the adjustment to equity can be an increase or decrease.

(Please see "Corporate Ratings Criteria, 2006 edition: Postretirement Obligations"; and "Ratings Implications Of New FASB Standard On Pensions And Other Postretirement Benefit Obligations," published Sept. 29, 2006, on RatingsDirect.)

Power Purchase Agreements

We view purchased power supply agreements (PPAs) as creating fixed, debt-like, financial obligations that represent substitutes for debt-financed capital investments in generation capacity. In a sense, a utility that has entered into a PPA has contracted with a supplier to make the financial investment on its behalf. Consequently, by adjusting financial metrics to incorporate PPA fixed obligations, we achieve greater comparability of utilities that finance and build generation capacity and those that purchase capacity to satisfy customer needs.

PPAs do benefit utilities by shifting various risks to the suppliers, such as construction risk and most of the operating risk. The principal risk borne by a utility that relies on PPAs is the recovery of the costs of the financial obligation in rates. Differentiating the risk profiles of utilities that take divergent approaches is incorporated in our qualitative business-risk assessments.

We calculate the present value (PV) of the future stream of capacity payments under the contracts as reported in the

financial statement footnotes, or as supplied directly by the company. The discount rate used is equivalent to the company's average cost of nonsecuritization debt. For U.S. companies, notes to the financial statements enumerate capacity payments for the coming five years, and a thereafter period. We often have access to company forecasts that show the detail underlying the thereafter amount; otherwise, we divide the amount reported as thereafter by the average of the capacity payments in the preceding five years to derive an approximation of annual payments after year five.

In calculating the amount we add to debt, we also consider new contracts that will commence during the forecast period. Such contracts are not reflected in the notes to the financial statements--but information regarding these contracts may be provided to us by the company.

If these contracts represent extensions of existing PPAs, they are immediately included in the PV calculation. However, a contract sometimes is executed in anticipation of incremental future needs, so the energy will not flow until some later period and there are no interim payments. In these instances, we incorporate that contract in our projections, starting in the year that energy deliveries begin under the contract, just as if the company had purchased a plant at that juncture. That way, the debt imputation is viewed in the context of all the related activity, including revenues and cash flow from the forecast demand. (Of course, the projected PPA debt is included in projected ratios. That way, the future PPA figures as a current rating factor, even if it is not included in the current-year ratio calculations.)

The calculated PV is adjusted to reflect the benefits of regulatory or legislative cost recovery mechanisms. The adjustment reduces the debt-equivalent amount by multiplying the PV by a specific risk factor that pertains to each contract. The stronger the recovery mechanisms, the smaller the risk factor. These risk factors typically range between 0% and 50%, but can be as high as 100%.

A 100% risk factor would signify that substantially all risk related to contractual obligations rests on the company, with no mitigating regulatory or legislative support. For example, an unregulated energy company that has entered into a tolling arrangement with a third-party supplier would be assigned a 100% risk factor. Conversely, a 0% risk factor indicates that the burden of the contractual payments rests solely with ratepayers. This fact pattern frequently is found among regulated utilities that act as conduits for the delivery of a third party's electricity, and essentially deliver power, collect charges, and remit revenues to the suppliers. These utilities typically have been directed to divest their generation assets; are barred from developing new generation assets; and the power supplied to their customers is sourced through a state auction or third parties that act as intermediaries between retail customers and electricity suppliers.

Intermediate degrees of recovery risk are presented by a number of regulatory and legislative mechanisms. For example, we employ a 50% risk factor in cases where regulators use a utility's rate case to establish base rates to provide for the recovery of the fixed costs created by a PPA. While we view this type of mechanism as generally supportive of credit quality, the utility still needs to obtain approval to recover costs and the prudence of PPA capacity payments in successive rate cases to ensure ongoing recovery of its fixed costs. If a regulator has established a power cost adjustment mechanism that recovers all prudent PPA costs, a risk factor of 25% is employed, because the recovery hurdle is lower than it is for a utility that must litigate time and again its right to recovery costs.

In certain jurisdictions, true-up mechanisms are more favorable and frequent than the review of base rates, but still do not amount to pure fuel adjustment clauses. Such mechanisms may be triggered by financial thresholds or

passage of prescribed periods of time. In these instances, a risk factor between 25% and 50% is employed.

Legislatively created cost-recovery mechanisms are long-lasting and more resilient to change. Consequently, such mechanisms lead to risk factors between 0% and 15%, depending on the legislative provisions for cost recovery and the supply function borne by the utility. Legislative guarantees of complete and timely recovery of costs are particularly important to achieving the lowest risk factors.

We do not impute debt for supply arrangements if a utility acts merely as a conduit for the delivery of power. As an example, New Jersey's vertically integrated utility companies were transformed into pure transmission and distribution utilities. The state commission, or an appointed proxy, leads an annual auction in which suppliers bid to serve the state's retail customers, and the utilities are protected from supplier default. The state's utilities merely deliver power and collect revenues from retail customers on behalf of the suppliers. Therefore, we impute debt only to New Jersey utilities' qualifying facility and exempt wholesale generator contracts--and not for other electricity supply contracts where the utilities merely act as conduits between the winners of the regulator's supply auction and the end-user, retail customers.

We also exclude PPAs with durations of less than one year where they serve merely as gap fillers, pending either the construction of new capacity or the execution of long-term PPA contracts. These contracts are temporary--and we focus on the more permanent situation, which is factored into the forecast ratios.

Given the long-term mandate of electric utilities to meet their customers' demand for electricity, and also to enable comparison of companies with different contract lengths, we use an evergreening methodology. Evergreen treatment extends the duration of short- and intermediate-term contracts to a common length of about 12 years. To quantify the cost of the extended capacity, we use empirical data regarding the cost of developing new peaking capacity, incorporating regional differences. The cost of new capacity is translated into a dollars-per-kilowatt-year figure using a proxy weighted average cost of capital and a proxy capital recovery period.

Some PPAs are treated as operating leases for accounting purposes--based on the tenor of the PPA or the residual value of the asset upon the PPA's expiration. We accord PPA treatment to those obligations, in lieu of lease treatment, if companies identify them to us. That way, such PPAs will not be subject to a 100% risk factor for analytical purposes as though they were ordinary leases; rather, the PV of the stream of capacity payments associated with these PPAs is reduced to reflect the applicable risk factor. (PPAs treated as capital leases for accounting purposes do not fall under our PPA adjustment.)

Long-term transmission contracts can also serve in lieu of building generation, and, accordingly, fall under our PPA methodology. In some cases, these transmission contracts provide access to specific power plants, while other transmission arrangements provide access to competitive wholesale electricity markets. We view these types of transmission arrangements as extensions of the power plants to which they are connected or the markets that they serve. Accordingly, we impute debt for the fixed costs associated with such transmission contracts.

Adjustment procedures

Data requirements

- Future capacity payments obtained from the financial statement footnotes or from management;
- Discount rate: the company's cost of nonsecuritized debt; and
- Analytically determined risk factor.

Calculations

- Balance-sheet debt is increased by the PV of the stream of capacity payments multiplied by the risk factor.
- Equity is not adjusted, because the recharacterization of the PPA implies the creation of an asset, which offsets the debt.
- PP&E and total assets are increased for the implied creation of an asset equivalent to the debt.
- An implied interest expense for the imputed debt is calculated by multiplying the utility's average cost of nonsecuritized debt by the amount of imputed debt (or, average PPA imputed debt, if there is fluctuation of the level), and is added to interest expense.
- The cost amount attributed to depreciation is reclassified as capex, thereby increasing operating cash flow and FFO.
- We impute a depreciation component to PPAs. The depreciation component is derived by multiplying the relevant year's capacity payment by the risk factor and then subtracting the implied PPA-related interest for that year. Accordingly, the impact of PPAs on cash flow measures is tempered.
- Some PPA contracts refer only to a single, all-in energy price. We identify an implied capacity price within such an all-in energy price, to calculate an implied capacity payment associated with the PPA. This implied capacity payment is expressed in dollars per kilowatt year, multiplied by the number of kilowatts under contract. (In cases that exhibit markedly different capacity factors, such as wind power, the relation of capacity payment to the all-in charge is adjusted accordingly.)
- Operating income before D&A and EBITDA are increased for the imputed interest expense and imputed depreciation component, the total of which equals the entire amount paid for PPA (subject to the risk factor).
- Operating income after D&A and EBIT are increased for interest expense.

(Please see "Standard & Poor's Methodology For Imputing Debt For U.S. Utilities' Power Purchase Agreements," published May 7, 2007, and "Credit FAQ: Imputed Debt Calculation For U.S. Utilities' Power Purchase Agreements," published March 30, 2007, on RatingsDirect.)

Share-Based Compensation Expense

We view the value of equity instruments (for example, stock options and restricted shares awards) granted to employees and/or other service providers as an outlay that should be taken into account in evaluating issuers' performance and profitability. When we assess a company's ability to generate a real, all-in return on capital employed, we should not view differently companies granting equity from peers using cash as a form of compensation. Although often not representing a direct or an immediate call on a company's cash resources, these grants are made in exchange for, or in anticipation of, services to be provided: They have a real economic value and so should be considered.

In analyzing the financial aspects of equity awards granted by an issuer, we consider adjustments to:

- Normalize the value of these grants in calculating earnings and performance-based metrics. That is, certain accounting regimes mandate expensing of stock-based grants while others do not. In addition, certain practices employed by management, such as vesting acceleration and other award modifications, could meaningfully affect reported results. Accordingly, certain adjustments may be warranted for more meaningful peer and period-over-period comparisons.
- Highlight the effect that these arrangements might have over time on cash flows. That is, although most awards do not result in cash being exchanged upon grant, future cash flows are clearly affected. This occurs as a result of

payments received by the company upon exercise or issuance of shares; payments made by the company for share repurchases (to mitigate earnings per share dilution); a company's practice to settle the value of equity grants in cash in lieu of shares; and tax savings generated by the favorable tax treatment generally afforded to options and other grants.
- Separately, we try to ascertain the effectiveness of a company's grants in aligning employee incentives with shareholders' and creditors' objectives.

Until recently, the major accounting regimes (e.g., IFRS, U.S. GAAP, Canadian GAAP, and Australian GAAP) did not mandate expensing of these costs. Now most require the fair value of equity-based grants (or an approximation of that value) to be included as an expense in the income statement. This amount is generally expensed over the benefiting period, i.e., the period the employee is assumed to provide services in exchange for the award. Often the vesting period is used as a proxy. Prior to the advent of IFRS and the recent mandating of expensing under U.S. GAAP for all stock-based grants, the accounting was greatly fragmented and inconsistent among companies and jurisdictions, and also varied according to the form of the award. For example, although restricted shares or stock appreciation rights may be economically equivalent to stock option grants, the accounting differed. Further, disclosures of stock-based compensation arrangements, which were lacking in the past, have vastly improved as a result of governance and transparency requirements by accounting-standard setters, securities regulators, and exchanges, providing more pertinent data on these arrangements.

Profitability analysis

Our objective is to capture compensation cost in our profitability measures--regardless of the means of payment (i.e., whether paid in cash, shares, options or other in-kind payment)--as fully and as consistently as possible.

With the recent accounting changes, most rated companies now expense the cost of equity-based grants, so the consistency of reported earnings is significantly enhanced, obviating in many cases the need to define a different common basis for analysis. However, where information enabling quantification is not available, we employ a qualitative assessment, to be conscious of the difference among peers.

Companies may, at times, modify their share-based awards, grant a one-time award (e.g., upon an acquisition), or accelerate vesting (e.g., upon a change in control or downsizing). These actions could meaningfully alter reported income and introduce discrete volatility to earnings. However, adjustments for these variants generally are not feasible as a practical matter, and are attempted only where material and the relevant information is available.

Cash flow analysis

When a company grants share-based awards, generally no cash is paid or received. Cash-flow consequences, if any, only arise when the options are exercised (e.g., as a result of payment of the exercise price and from associated tax benefits). For some other grants, such as stock appreciation rights (SARs) payable in shares and restricted share grants, no cash changes hands at all. Just as with all issuance of equity, the company's financial position is enhanced, or at least is not diminished, as a result of the grant (assuming settlement is effected with shares, and the grant/exercise is not tied to commensurate repurchases). From a cash flow standpoint, companies would gain flexibility to the extent that stock-based grants provide an alternative to cash compensation and their creditors should be better off, while their shareholders will be diluted.

Our cash-flow measures, such as FFO and operating cash flow, are not affected by share-based grants. Being a noncash item, share-based related expense will continue to be backed out on the cash flow statement. Because options and restricted share grants represent noncash events, our key cash flow ratios--FFO to total debt, EBITDA

to interest, and debt to EBITDA--exclude stock option expense. Accordingly, for companies whose stock-based compensation expense (payable in shares) has been deducted, we adjust EBITDA measures by adding back the expense.

Unlike options or restricted share awards, certain other share-based arrangements are payable solely in cash (e.g., stock appreciation rights required to be settled in cash), and represent a future call on a company's cash flow. The obligations under these arrangements are treated as debt.

For tax-reporting purposes, the exercise or the point of vesting (not granting) of certain stock-based awards often generates a tax-deductible expense, regardless of whether the company has been expensing stock-option grants for financial reporting purposes. Tax credits are shown as an operating item on the cash flow statement under U.S. GAAP only to the extent they relate to the accounting expense; if the tax deduction exceeds the amount attributable to the accounting expense, such excess is a financing item. Analytically, we view tax benefits more appropriately as a financing item on the cash flow statement, because they are triggered only upon equity issuance.

To mitigate dilution caused by options and other share-related grants, companies often engage in share repurchases. Arguably, if a company regularly reverses the dilution resulting from the exercise of share-based awards through share repurchases, the related cash outlays (net of cash proceeds from the exercise) could be treated as a cash operating expense. However, we view a company's decision to repurchase its shares as a separate matter--and part of the company's overall corporate finance strategy. Accordingly, we determine the level of expected share repurchases in the context of a broader assessment of liquidity, capitalization, and financial policy.

In contrast, when an issuer enters into derivative or similar contracts to repurchase shares at a future date, we view these contracts as precursors to such purchases--and incorporate the repurchase immediately in the analysis. Still, even in the absence of such contractual arrangements, the analysis incorporates the eventual share repurchases if they are anticipated. We adjust debt by adding amounts that are anticipated as necessary to fund these transactions.

Additional considerations

For U.S. tax purposes, generally the exercise (not granting) of certain stock options results in a tax-deductible expense to the employer. However, for GAAP purposes, the company expenses the fair value of stock options, which is determined at the grant date, ratably over the related service period. As a result of the use of the grant date fair value to determine the accounting expense, rather than an exercise-date intrinsic or other value for tax deduction purposes, the book and the tax expenses will differ. Furthermore, U.S. GAAP does not allow companies to record a reduction to income tax expense on their income statements for these excess tax benefits. Instead, the tax benefit is recorded directly as an incremental increase to equity (more specifically, additional paid-in capital) and a reduction of taxes payable (i.e., never recorded in as a benefit in the income statement). Consistent with our view that the tax benefits are more financing in nature, because they relate to equity issuance, this will not give rise to an adjustment.

If the options ultimately expire unexercised, any previously recorded accounting expense (recorded based on the award's initial fair value) is not reversed under U.S. GAAP. Although in this circumstance no tax deduction would be generated at all, it would result in a deferred tax asset being recorded on the company's balance sheet over the expense recognition period (because the book expense and resulting deferred tax assets are calculated based on the initial fair value). This tax asset is reversed through earnings only upon expiration of the exercise period. This requirement can cause large deferred tax assets, unlikely to be realized, to remain on a company's balance sheet, causing artificially inflated equity balance in circumstances in which a company's fortunes are adversely changing,

and its options are moving substantially out of the money (rendering both exercise and use of the tax benefit improbable). Analytically, it would be more appropriate to reverse the asset amount against equity when it becomes apparent that use of the benefits is unlikely. Adjustments for these situations are considered only in rare circumstances.

Both IFRS and U.S. GAAP now require the expensing of stock options and other share-based employee compensation. However, to facilitate the transition from the prior approach of not expensing, the transition provision allows companies to apply this approach only to grants that were made after a specific date (e.g., Nov. 7, 2002, under IFRS). As a result, costs for an increasing proportion of outstanding grants will be expensed over time. We have generally not attempted to adjust earnings measures to include the missing expenses in the early years of the transition.

Adjustment procedures

Data requirements

- Total period share-based compensation expense reflected in the financial statements. (Amounts may be available in the statements or in the notes.);
- In jurisdictions that do not require expensing of such compensation, an estimate of what would be expensed;
- Amount of deferred taxes unlikely to be realized;
- Tax cash flows included in operating that we view as financing; and
- Estimate of amounts to be used for share repurchases.

Calculations

- EBITDA: Where noncash stock compensation costs have been expensed, we reverse the expense amount.
- SG&A, Operating income before and after D&A, and EBIT: In jurisdictions where share-based compensation is not required to be expensed, the estimated amount is deducted from these profitability measures.
- Tax assets that are unlikely to be realized are subtracted from assets and equity.
- Taxes that are financing in nature are added to operating cash flow and FFO.
- Debt is increased--and equity decreased--for related share repurchases that are contractually committed or otherwise imminent.

(Please see "Analytic Implications Of Stock-Based Compensation Accounting," published March 24, 2005, and "Camouflaged Share Repurchases: The Rating Implications Of Total-Return Swaps And Similar Equity Derivatives," published Dec. 7, 2000, on RatingsDirect.)

Stranded costs securitizations of regulated utilities

For rate-regulated utilities, we remove the effects of debt related to securitization of stranded costs, to the extent that debt is serviced separately by the utilities' customers through direct inclusion in rates. Because the customers, not the utility, are responsible, by statute, for principal and interest payments, we remove the debt from the balance sheet for analytical purposes. We also remove related amounts from revenue, depreciation, and interest.

Adjustment procedures

Data requirements

- Amount of securitized debt related to stranded costs on the utility's balance sheet at period end;
- Interest expense related to securitized stranded-cost debt for the period; and

- Principal repayments on stranded-cost securitized debt during the period.
- Note: We obtain the data from the financial statements and footnotes of the utility; or separate special purpose vehicle (SPV) created for the debt securitization; or information received directly from the utility.

Calculations

- Adjustment to debt: We subtract the stranded-cost securitized debt from total debt.
- Adjustment to revenues: We remove the revenue earned from customers that is committed to paying securitized debt principal and interest from total revenues. We assume that revenue equals the sum of interest and principal payments made during the year.
- Adjustment to operating income before D&A and EBITDA: We remove the revenue earned from customers committed to paying principal and interest on securitized debt.
- Adjustment to operating income after depreciation and amortization and EBIT: We remove the revenue earned from customers committed to paying principal and interest. We also remove D&A related to the regulatory asset, which we assume equals the sum on principal payments during the period. As a result, the reduction to operating income after D&A is only for the interest portion.
- Adjustment to interest expense: We reduce interest expense by interest expense of the securitized debt.
- Operating cash flows: We reduce operating cash flows for revenues and increase for the assumed interest amount related to the securitized debt. This results in a net decrease to operating cash flows equal to the principal repayment amount.

(Please see "Securitizing Stranded Costs," published Jan. 18, 2001, on RatingsDirect.)

Surplus Cash

The credit profile of companies that have accumulated cash is, of course, enhanced by the available liquidity. But our analytical methodology regularly goes a step further, by adjusting both financial and operating ratios to reflect a company's surplus cash (that is, unless the surplus is deemed to be only temporary).

Industrial credit ratios are intended to capture the degree to which a company has leveraged its risk assets, and highly liquid financial assets often involve virtually no risk. Moreover, ratios are designed to indicate a company's ability to service and repay debt obligations from operating cash flow, and surplus cash and/or highly liquid assets are, in a sense, available to repay debt apart from ongoing cash flow generation. Accordingly, we often net surplus cash against debt and debt-like obligations--so that net debt is what figures in ratio calculations.

In some situations--only where the surplus cash is structurally linked to debt that would not be needed, were it not for the cash holdings--we also use a net interest expense when calculating the denominator of coverage ratios, such as FFO/interest, EBIT/interest, and EBITDA/interest. (Absent such linkage, we use gross interest in the denominator. Also, since interest income is differentiated from operating income, it is generally not included in the numerator.)

Further, maintenance of surplus cash distorts operational benchmarks and return on assets measures that are important for peer comparisons in some sectors, such as pharmaceuticals. Given the relatively low returns on low-risk financial assets, maintaining such assets depresses asset-related margins (even without taking into account interest expense required if the company is financing the cash with debt that otherwise would not be needed).

The key analytical considerations regarding net debt adjustments are the quality of the financial assets themselves and the company's purpose and strategies for maintaining them--although doing so involves commensurately higher

levels of debt. Some of the possible strategies--and what they imply for the permanence of the surplus--are discussed below.

Virtually all companies require some cash to facilitate their operations. Retailers, restaurants, and supermarkets, for example, need cash to make change. More broadly, companies require a certain level of cash for very-near-term liquidity. We do not give any special credit or make any adjustments for cash that is merely adequate to support ongoing operations, even though the amount can sometimes be quite substantial--especially for companies that operate numerous facilities, and those that transact in diverse currencies.

Companies engage in dialogue with us to help us gauge these near-term operating liquidity needs, and our sector comparisons and reviews also target peer consistency regarding maintenance of sufficient liquidity. Apart from potential netting for surpluses, maintaining adequate liquidity is always an important rating consideration. A company with a deficient level of cash for working capital needs would be penalized in its rating assignment.

However, many companies possess still greater cash, and/or liquid, low-risk, financial resources. Several different possible purposes and strategies could apply. This is important to our analytical treatment: There are many situations in which we use net calculations and, many others where we do not, usually determined by the company's strategies. The strategies explained below are in descending order, starting with the most supportive of a net approach and concluding with a number of strategies that do not lead to a net approach.

Strategies that support net-debt treatment

- Defeasance (both legal and economic). Because the company places very high-quality assets in a trust to cover the interest and principal of a specific debt issue, this is the most obvious application of the net debt adjustment. (See "Defeasance Of Corporate Bonds May Be Gaining Popularity," published July 25, 2006, on RatingsDirect).
- Tax arbitrage. Some companies manufacture in various tax havens; retain related profits in those low-tax locales and avoid tollgate taxes by holding financial investments there; while financing and incurring tax-deductible interest expense in higher-tax rate jurisdictions. Such structural basis for maintaining cash is another solid reason for applying the net debt adjustments. (However, for analytical purposes, any "tollgate" taxes payable upon repatriation are subtracted from the cash.) The large, cash-rich U.S. pharmaceutical companies offer a good example of this tax arbitrage strategy. And, given the magnitude of this aspect of these companies' finances, profitability measures could be quite distorted without also adjusting return on asset ratios to a net basis. (See "Credit FAQ: Tax Relief On Foreign Cash And Its Special Benefit To U.S. Drug And Medical Device Firms," published Sept. 14, 2004, and "Ratings Implications Of Earnings Repatriations Under The American Jobs Creation Act," published June 26, 2006, on RatingsDirect.)
- Funding future payment of obligations--especially retiree obligations. Some companies may earmark financial assets on their balance sheet to provide for their retiree benefit obligations. In particular, some large German corporations assert that this is their financial policy. Indeed, while these assets are not legally segregated, we would view them as offsetting the liability. Application of the net debt approach in such cases presumes that the liability itself is sufficiently debt-like to be included in our definition of adjusted debt. (U.S., U.K., and Dutch companies, among others, are forced by law to fund their pension obligations in a trust. Our pension adjustment adds back only any unfunded portion, which is equivalent to netting these financial assets against the debt-like pension liability.)
- Meet seasonal requirements. A company may choose to pre-fund its intrayear borrowing needs, by borrowing (or not repaying outstanding debt balances), holding the proceeds in cash or near-cash investments, drawing down the cash as the year progresses, and then replenishing it at period end. The company should not be penalized

relative to a company that instead relies on borrowing only as the need actually materializes, thus avoiding the debt showing up on its yearend financial statements. (In both cases, there may be equal prudence, since the latter company would typically be able to rely on a revolving credit agreement.) To avoid such a distortion and promote comparability, we would use a net-debt approach. However, it would be tricky to estimate the impact on interest expense involved for this pattern, which is one reason we are reluctant to focus on net interest expense.

- Maintain access to financial markets. Very similar to the above strategy, some companies believe it is in their best interests to keep a fairly stable presence in the financial markets, especially in CP markets. They maintain market presence on a regular basis, and avoid going in and out of the markets as their cash flow patterns would dictate.

Strategies that do not support net-debt treatment

- Cyclical safety net. Some companies tend to accumulate cash during good times and hold onto it for self-preservation during expected lean years. For companies that have large ongoing capital requirements, this can be critical. The large U.S. auto companies offer a dramatic example. Similarly, high technology companies tend to operate with a large cash cushion, given the vicissitudes of the technology product life cycles. Such cash is not really an offset to debt, and net debt is not used as the basis for analysis in these instances. (Nonetheless, it is hard to forecast how much cash is appropriately dedicated to spending in future downturns. So the analyst might calculate supplementary ratios based on netting, just to gain perspective and for peer comparison purposes.)
- Reserve for investment opportunities. Cash earmarked for investment in operations--expansion or capital projects--or acquisitions does not qualify for netting against debt. The cash position is temporary, although some companies may take their time until the opportunity they seek arrives. Of course, having such cash to invest is a great positive that must not be overlooked; it figures in other aspects of the analysis: The potential additional cash flow that can be anticipated from enlarged operations is considered in financial projections, and the current availability of cash enhances liquidity.
- Awaiting return to shareholders. In the current financial environment, this situation may be the most common, at least in the U.S. Many companies that have been successful at generating surplus cash are motivated to repurchase stock or pay out special dividends. While shareholder enrichment programs may stretch out over several quarters or even a few years, the cash position of such companies is ephemeral, and should not be netted against debt.

There are many instances where the purpose may be mixed or the strategy unclear. Local business practice can then form the basis for deciding whether the cash position is likely to be long-lasting. Accordingly, companies with surplus cash that operate in the European context are regularly afforded net debt treatment, given the acceptance--even tradition--of companies operating permanently with surplus cash. (Whatever portion is deemed to be needed for operations is excluded from the adjustment.)

In contrast, North American companies operate in an environment that looks askance at cash accumulation. Shareholders expect these funds to be invested, or returned to them for reinvestment. We therefore presume that, in most cases, surplus cash will be distributed to shareholders sooner or later. Accordingly, few companies in North America are analyzed on a net-debt basis.

Some companies participate in global industries, and may be influenced, to some extent, by the behavior of cross-border peers. This could provide additional insight into what to expect in those instances.

A company's excess cash may be invested in assets of varying quality or liquidity. We tend to be fairly conservative about which assets can be used to fully offset debt. However, a diversified portfolio of assets--such as traded

equities, for example--can constitute a reasonably high quality investment, and is certainly very liquid. We have sometimes taken a net approach even with respect to nonfinancial assets, when they exhibit similar critical aspects of low risk and liquidity. For example, agricultural commodity and energy trading companies hold inventory against committed orders. Netting the value of these commodities against debt allows a better picture of the true credit risks.

To the extent that asset values may be subject to decline, we would haircut the investment prior to the netting adjustment. There are situations where we would not adjust for excess cash on the balance sheet because the company has only limited access to the funds. Such exceptions include:

- Funds held at partially owned subsidiaries. Joint venture partners or minority shareholders may insist on maintaining significant liquidity at the subsidiary level, or may otherwise limit the repatriation of cash to the group's central treasury operations. Restrictive bank loan covenants at these units create similar restrictions.
- Operating subsidiaries that are regulated. These business units may be prevented from up-streaming cash to their parents, or may have to maintain substantial cash balances for regulatory reasons.
- Captive insurance subsidiaries. Although cash appears unencumbered, it usually has to be invested in line with the subsidiary's insurance status and regulations.
- Pension funding vehicles. Even pension surpluses are generally regarded as inaccessible for all practical purposes.

Adjustment procedures

Data requirements

- The amount of surplus cash is judgmentally determined, based on our assessment of liquidity available to repay debt; and
- Estimated taxes that would be subject to collection upon repatriation, if applicable.

Calculations

- Debt and cash and investments are reduced by the surplus cash amount, net of related taxes. However, the resulting debt amount may never be negative.
- If the cash and debt are structurally linked, interest expense is reduced by an amount that corresponds to earnings on the surplus cash.

(Please see "Net Debt Adjustments Reflect Asset Quality, Strategic Intent," published Feb. 22, 2007, on RatingsDirect.)

Trade Receivables Securitizations

Securitization is an important financing vehicle for many companies, often providing lower-cost, more diverse sources of funding and liquidity than otherwise available to the company. However, securitizations do not ordinarily transform the risks or the underlying economic reality of the business activity, and do not necessarily provide equity relief (i.e., that having accomplished a securitization, the issuer can retain less equity, or incur more debt, than otherwise would be the case, without any change in its credit quality).

To the extent the securitization accomplishes true risk transfer (i.e., all risks--contractual, legal, and reputational), the transaction is interpreted as an asset sale. Yet, in the much more common case, the company retains the bulk of risks related to the assets transferred, and the transaction is akin, in our view, to a secured financing. More importantly, perhaps, we do not give any benefit for securitization of assets that will be regenerated in the ordinary

course of business (and financed on an ongoing basis).

Key considerations in assessing the extent of equity relief include:

- Riskiness of the securitized assets. The only risk that can be transferred is that which existed in the first place. If, as is often the case, an issuer securitizes its highest-quality or most liquid assets, that limits the extent of any meaningful equity relief.
- First-loss exposure. The issuer commonly retains the first-loss exposure, to enhance the credit protection afforded for the securitized debt. For the securitized debt to be highly rated, the extent of enhancement must be a multiple of the expected losses associated with the assets. The first-loss layer thus encompasses the preponderance of risk associated with the securitized assets, and the issuer's total realizations from the securitization will vary depending on the performance of the assets. Often, only the risk of catastrophic loss is transferred to third-party investors--risk generally of little relevance in the corporate rating analysis.
- Moral recourse. How the company would behave if losses did reach catastrophic levels. Empirical evidence suggests companies often believe they must bail out troubled financings (for example, by repurchasing problematic assets or replacing them with other assets) to preserve access to this funding source and, more broadly, to preserve their good name in the capital markets, even though they have no legal requirement to do so. Moral recourse is magnified when securitizations are a significant part of a company's financing activity, or when a company remains linked to the securitized assets by continuing in the role of servicer or operator.
- Ongoing funding needs. Even if it were contractually and legally certain that the risks related to a given pool of assets had been fully transferred and the issuer would not support failing securitizations, equity relief (or an analytical deconsolidation) still would not necessarily have been achieved. If, for whatever reason, losses related to the securitized assets rose dramatically higher than initially anticipated, and if the issuer has a recurring need to finance similar assets, future access to the securitization market would be dubious--at least economically. Future funding needs would then have to be met by other means, with the requisite equity (and the equivalent level of borrowings) to support them. Thus, even if a company separately sells the first-loss exposures, or sells the entire asset without retaining any first-loss exposure, it would not achieve equity relief.

The accounting treatment of securitizations may not be congruent with our analytical perspective, and, accordingly, adjustments to the reported financials often are necessary (especially for companies reporting under U.S. GAAP, since many securitizations remain on balance sheet under IFRS).

For transactions in which a company retains the preponderance of risks (including those related to ongoing funding needs), we calculate ratios where the outstanding amount of securitized assets are consolidated, along with the related securitized debt--regardless of the accounting treatment. If securitization is used essentially to transfer risk in full and there are no contingent or indirect liabilities, we view the transaction as the equivalent of an asset sale. When necessary, then, we recast the assets, debt, earnings and cashflows, and shareholders' equity accordingly, including adjusting for deferred tax effects and imputed interest.

Issues/limitations of adjustments

When securitizations are accounted for as sales, they commonly give rise to upfront gain/loss-on-sale effects, which represent the present value of the estimated difference between the asset yield and the securitization funding rate and other securitization-related costs. For securitizations that we are putting back on the balance sheet, it is appropriate to back out such gains and spread them out over the life of the securitizations, given the uncertainty about whether the earnings will ultimately be realized as expected and their essentially nonrecurring character. Losses that reflect

the discount on sale are also backed out, to avoid double-counting the interest component of the transactions.

To impute interest, we generally have to approximate a rate, given the lack of precise information that is available. Since securitizations tend to be relatively well-secured and risk-free for the investor, we assume a rate that approximates the risk-free rate, currently 5%.

In theory, it might be desirable to fully recast the income statement, and consolidate off-balance-sheet securitizations, but as a practical matter, this is difficult to accomplish. Still, some companies have voluntarily included pro forma schedules in their public disclosures to enable such analysis.

Cash inflows or outflows related to working capital assets or liabilities, or finance receivables, are classified as operating in nature on the statement of cash flows under U.S. GAAP and IFRS. Hence, securitizations affect operating cash flow, with particularly significant effects possible in reporting periods when securitizations are initiated or mature. The reporting convention varies in line with the balance sheet classification. If the securitization is consolidated, the related borrowings are treated as a financing activity. If the securitization is not consolidated, it is as if the assets self-liquidated on an accelerated basis: No debt incurrence is identified separately, either as an operating or financing source of cash. When our analytic view is that securitizations should be consolidated (or, in rare situations, when those that are consolidated should not be), it would be desirable to recast the statement of cash flow accordingly--to smooth out the variations in operating cash flow that can result from the sale treatment of the securitization, which can give a distorted picture of recurring cash flow. Again, as a practical matter, this often can be difficult to accomplish.

Adjustment procedures

Data requirements

- Identify the period-end amount and average outstanding amount of trade receivables sold or securitized, for which an adjustment is warranted, that are not on the balance sheet.

Calculations

- Debt and receivables are increased by the amount of trade receivables sold or securitized.
- Interest expense is increased by an amount of interest imputed at the risk-free discount rate.
- Operating cash flows are adjusted to remove the proceeds from the securitization when there is an increased level of securitization--upon initiation of securitization or subsequent fluctuation in amounts securitized. Merely rolling over existing securitization requires no cash flow adjustment.

(Please see "Securitization's Effect On Corporate Credit Quality," published Nov. 28, 2005, and "Finance Company Rating Methodology: Credit Ratios To Be Analyzed On A Managed Basis," published Feb. 23, 2001, on RatingsDirect.)

Volumetric Production Payments

A volumetric production payment (VPP) is an arrangement in which an E&P company agrees to deliver a specified quantity of hydrocarbons from specific properties to a counterparty (often a financial institution) in return for a fixed amount of cash received at the beginning of the transaction. The seller often bears all of the production and development costs associated with delivering the agreed-upon volumes. The buyer receives a nonoperating interest in oil and gas properties that produce the required volumes. The security is a real interest in the producing properties that is expected to survive bankruptcy of the E&P company that sold the VPP. When the total requisite units of

production are delivered, the production payment arrangement terminates and the conveyed interest reverts back to the seller.

We view production payments structured with a high level of security to production coverage as debt-like obligations, and adjust financial and operating analysis accordingly. The retention of risk in VPPs is central to our treatment of such deals as largely debt-like.

The accounting for VPPs affects the seller's financial statements and operating statistics in several ways. The VPP volumes (i.e., the amount of oil and gas required to be delivered under the agreement) are removed from the seller's reserves. Proceeds received for the VPP increase the seller's cash balances, and the seller books a deferred revenue liability--or debt--to reflect the obligation under the agreement. Revenues and costs incurred to produce the VPP volumes are included in the seller's income statement as and when the oil and gas is produced. Operating statistics calculated on a per-barrel basis will be overstated because they include both the amortization of deferred revenues and costs, but do not factor in the volumes related to the VPP. In the case of lifting costs, for example, barrels produced in the numerator are lower, while the expense in the denominator continues to include the cost of producing the VPP volumes.

When the necessary data are available, we adjust the reported results to minimize the distortion caused by accounting for a production payment. The required volumes are returned to reserves and deferred revenue is treated as debt. Similarly, the oil and gas volumes produced to meet the VPP requirements are added to the E&P company's production when calculating per-barrel sales and lifting costs. This treatment reflects the view that VPPs are conceptually similar to secured debt, rather than asset sales. The similarity pertains in typical deals, in which the reserves included in the production agreement are significantly greater than the required volumes. The seller bears the obligation to deliver the agreed-upon volumes, and retains the production and a significant amount of reserve risk, while receiving the benefit of fixing commodity prices. A VPP structured with minimal coverage would be viewed as closer to an asset sale, since the transfer of risk would be more substantial.

Adjustment procedures

Data requirements

- Amount of VPP-related deferred revenue reported on the balance sheet at period end;
- Oil and gas reserve data (related to VPPs that have been removed from reported amounts);
- Remaining quantity of oil and gas reserves removed from reported reserves at end of period (yet to be delivered); and
- Oil and gas volumes produced during the year from the VPPs.

The amount of deferred revenue related to VPPs at period end is obtained from the financial statements. Reserve quantities may come from the financial statements or from the company.

Calculations

- Adjustment to debt: We add the amount of deferred VPP revenue at period end to debt.
- Adjustment to interest expense: We impute interest expense on the adjustment to debt. The rate is that inherent in the contract, or a rate estimated by the analyst based on the company's secured borrowing rates. In either case, it is applied to the average of the current period end, and the previous period end deferred VPP revenue balance.
- We add period-end reserve volumes related to VPPs back to reported reserves.

- Similarly, we add the oil and gas volumes produced to meet the VPP requirements to the company's production and sales statistics used to calculate per-barrel selling prices and lifting costs.
- Adjustment to operating cash flow: We reclassify cash proceeds from VPPs as financing cash flows. Future cash flows will be adjusted (if practicable and data are available) upon delivery, to reflect the cash flows associated with the properties.

(Please see "Credit FAQ: Volumetric Production Payments For U.S. Oil And Gas Companies," published April 14, 2005, and "Oil And Gas Volumetric Production Payments: The Corporate Ratings Perspective," published Dec. 4, 2003, on RatingsDirect.)

Workers Compensation/Self insurance

Workers compensation systems provide compensation for employees injured in the course of employment. While schemes differ between jurisdictions, provisions may be made for payments in lieu of wages, compensation for economic losses (past and future), reimbursement for or payment of medical and like expenses, general damages for pain and suffering, and benefits payable to the dependents of workers killed during employment. (For example, U.S. coal mining companies, under the Federal Coal Mine Health and Safety Act, are responsible for medical and disability benefits to existing and former employees and their families who are affected by pneumoconiosis, better known as black lung disease.)

Workers compensation coverage may be provided through insurance companies, and thus is not a financial concern for the company. But, in certain instances and/or industries, employers assume direct responsibility for medical treatment, lost wages, etc.

In these cases, under U.S. GAAP or IFRS, the incurred liabilities usually are recorded on the company's balance sheet as other liabilities, based on an actuarially determined present value of known and estimated claims. Accordingly, these obligations represent a call on future cash flow, distinguishing them from many other, less-certain contingencies. They are analogous to postretirement obligations, which we also add to debt.

Treating the workers compensation liability as debt affects many line items on the financial statements. Ideally, if there is sufficient disclosure available, we would adjust fully (in a manner akin to our postretirement adjustments). In practice, the data are not available, so we reclassify these obligations, adjusted for tax, as debt. Similarly, we may also treat other analogous self-insurance-type liabilities as debt.

Adjustment procedures

Data requirements

- Net amount recognized as a liability for workers compensation obligations and for self-insurance claims.

Calculations

- Add amount recognized for workers compensation obligations (net of tax) and net amount recognized for self-insurance claims (net of tax) to debt.

Rating Each Issue

We assign two types of credit ratings--one to corporate issuers and the other to individual corporate debt issues (or other financial obligations). The first is called a Standard & Poor's corporate credit rating. It is our current opinion

on an issuer's overall capacity to pay its financial obligations, i.e., its fundamental creditworthiness. This opinion focuses on the issuer's ability and willingness to meet its financial commitments on a timely basis. It generally indicates the likelihood of default regarding all financial obligations of the company, because, in most countries, companies that default on one debt type--or file for bankruptcy--virtually always stop payment on all debt types.

The corporate rating does not reflect any priority or preference among obligations. In the past, we published the "implied senior-most rating" of corporate obligors--a different term for precisely the same concept. "Default risk rating" and "natural rating" are additional ways of referring to this issuer rating.

(Generally, a corporate credit rating is published for all companies that have issue ratings--in addition to those companies that have no ratable issues, but request just an issuer rating. Where it is germane, both a local-currency and a foreign-currency issuer rating are assigned.)

We also assign credit ratings to specific issues. In fact, the vast majority of credit ratings pertain to specific debt issues. Long-term issue ratings are a blend of default risk (sometimes referred to as "timeliness") and the recovery prospects (LGD) associated with the specific debt being rated. Debt with relatively good recovery prospects--especially well-secured debt--is rated above the corporate credit rating; debt with relatively poor prospects for such LGD--especially junior debt--is rated below the corporate credit rating. Notching does not apply to short-term ratings (see "Commercial Paper").

Recovery ratings were added in 2003. These ratings address only recovery prospects, using a scale of one to six, rather than the letter ratings.

Notching Down; Notching Up

The practice of differentiating issues in relation to the issuer's fundamental creditworthiness is known as "notching." Issues are notched up or down from the corporate credit rating level. Payment on time as promised obviously is critical with respect to all debt issues. The potential for recovery in the event of a default--i.e., ultimate recovery, albeit delayed--also is important, but timeliness is the primary consideration. That explains why issue ratings are still anchored to the corporate credit rating. They are notched--up or down--from the corporate credit rating in accordance with established guidelines explained here.

As default risk increases, the concern over what can be recovered takes on greater relevance and, therefore, greater rating significance. Accordingly, the LGD aspect of ratings is given more weight as one moves down the rating spectrum. For example, subordinated debt can be rated up to two notches below a noninvestment grade corporate credit rating, but one notch at most if the corporate credit rating is investment grade. (In the same vein, issues of companies with a 'AAA' rating need not be notched at all.)

For investment-grade companies, we seek to differentiate those financial obligations judged to have materially inferior recovery prospects by virtue of being unsecured or subordinated--either contractually or structurally. Priority in bankruptcy is considered in broad terms; there is no attempt to specify a default scenario.

In the speculative-grade categories, we do seek to predict specific recovery levels based on full-blown default-scenario modeling. Because any default would presumably be less distant in time than for investment-grade companies, it is more reasonable to analyze a specific anticipated default scenario, with associated asset mix and realizable values. When such a rigorous recovery analysis is performed, we assign a recovery rating and base the

notching on the specific outcome. We focus on a central tendency of approximately 50%. Therefore, issues with recovery rates significantly more than 50% are rated above the corporate rating; conversely, issues recovering significantly less than 50% are rated below the corporate rating.

Notching relationships' underlying issue ratings are subject to review and change when actual developments vary from expectations. Changes in notching do not necessarily have to be accompanied by changes in default risk.

Notching guidelines are a function of the bankruptcy law and practice in the legal jurisdiction that governs a specific instrument. For example, distinguishing between senior and subordinated debt can be meaningless in India, where companies may be allowed to continue paying even common dividends at the same time they are in default on debt obligations; accordingly, notching is not applied in India. The majority of legal systems broadly follow the practices underlying our criteria for notching--but it always is important to be aware of nuances of the law as they pertain to a specific issue.

Preferred stock

Preferred stock carries greater credit risk than debt in two important ways: The dividend is at the discretion of the issuer, and the preferred represents a deeply subordinated claim in the event of bankruptcy. Prior to 1999, we used a separate preferred stock scale. In February 1999, the debt and preferred stock scales were integrated.

Accordingly, now, preferred stock generally is rated below subordinated debt. When the corporate credit rating on a company is investment grade, its preferred stock is rated two notches below the corporate credit rating. For example, if the corporate credit rating is 'A+', the preferred stock would be rated 'A-'. (In case of a 'AAA' corporate credit rating, the preferred stock would be rated 'AA+'.) When the corporate credit rating is noninvestment grade, the preferred stock is rated at least three notches (one rating category) below the corporate credit rating. Deferrable payment debt is treated identically to preferred stock, given subordination and the right to defer payments of interest.

There are situations in which the dividend is especially jeopardized, so notching would exceed the guidelines above. For example, state charters restrict payment when there is a deficit in the equity account. This can occur following a write-off, even while the company is healthy and possesses ample cash to continue paying. Similarly, covenants in debt instruments can endanger payment of dividends, even while there is a capacity to pay.

In all cases, the risk of deferral of payments is analyzed from a pragmatic, rather than a legal, perspective. If a company defers a payment or passes on a preferred dividend, it is tantamount to default on the preferred issues. The rating is changed to 'D' once the payment date has passed. The rating usually would be lowered to 'C' in the interim, to the extent nonpayment can be anticipated--e.g., if the company were to announce that its directors failed to declare the preferred dividend. Whenever a company resumes paying preferred dividends but remains in arrears with respect to payments it skipped, the rating is, by definition, 'C'.

Convertible preferred/equity units

Some securities provide for mandatory conversion into common stock of a company. Such securities vary with respect to the formula for sharing potential appreciation in share value. In the interim, these securities represent a subordinated debt or preferred stock claim. Other offerings package a short-life debt or preferred stock with a deferred common stock purchase contract to achieve similar economics.

Ratings on the issue address primarily the likelihood of interim payments and the solvency of the company at the

time of conversion to enable it to honor its obligation to deliver the shares. These ratings do not address the amount or value of the common stock investors ultimately will receive. The equity risk that pertains is reflected merely by limiting the rating to the equivalent of the company's preferred equity securities. (We once highlighted this risk by appending an 'r' to the ratings of these hybrid securities, but now rely on the market's familiarity with such instruments and their terms.)

Reflecting Recovery In Issue Ratings

If we can confidently project recovery prospects exceeding 70% for an individual security, that issue is typically rated higher than the corporate rating; conversely, if we project recovery for a given security to be under 30%, the issue is typically rated lower than the corporate rating. When we cannot confidently model absolute recovery because of jurisdictional issues or because the corporate credit rating is investment-grade and the issue is unsecured, we notch down when a debt issue's junior standing, relative to other debt issues of the company, indicates relatively poor recovery prospects.

The weighting of recovery aspects in issue ratings also varies as the potential for default becomes more meaningful, as explained below.

Investment grade

For investment-grade companies, notching relationships are based on broad guidelines that combine consideration of asset protection and ranking. The guidelines are designed to identify material disadvantage for a given issue by virtue of the existence of better-positioned obligations. The analyst does not seek to predict specific recovery levels, which would involve knowing the exact asset mix and values at a point well into the future. Therefore we do not generally perform a fundamental recovery analysis, given the difficulty of doing meaningful default scenario analysis while the company is still so strong.

(For example, we would not presume that default occurs while the company's capital structure remains roughly the same--as we generally do in the recovery analysis of speculative grade companies. With respect to currently strong credits--with relatively unburdened balance sheets--such an approach would be inappropriate. Indeed, currently, we typically do not assign recovery ratings on debt issues of investment-grade corporates--with the exception of utility first mortgage bonds.)

Rather, we use a rule-of-thumb approach to identify debt issues with inferior recovery prospects--or, for consideration of adding notches, we use discrete asset valuations if there is collateral (modified somewhat in the case of regulated utilities).

Rating below the corporate credit rating: "Notching down"

When a debt issue is judged to be junior to other debt issues of the company, and thereby to have relatively poor recovery prospects, that issue is notched down from the corporate credit rating. As a matter of rating policy, the differential is limited to one rating designation in the investment-grade categories given the critical role of timeliness for investment grade debt. LGD is just less significant in the scheme of things for investment grade--leading to less weight given to recovery; investors are focused on getting paid in the first place.

Whenever a threshold percentage of the company's assets would first be used to satisfy other claims, this translates into a meaningful disadvantage for the junior creditors. The threshold for notching is reached when more-senior claims cover more than 20% of the assets (unless less-valuable assets make up the collateral or there mitigating

factors exist, such as upstream guarantees).

While we do not make specific judgments regarding the level of absolute recovery for investment-grade debt, the material disadvantage of junior issues is designed to roughly correspond to the 30% absolute-recovery benchmark that applies for speculative-grade notching. More often than not, junior debt recovers less than 30% (although this figure may vary by jurisdiction).

The threshold level takes into account that it normally takes more than $1 of book assets--as valued today--to satisfy $1 of priority debt. In the case of secured debt--which limits the priority to the collateral pledged--the remaining assets are still less likely to be sufficient to repay the unsecured debt, inasmuch as the collateral ordinarily consists of the company's better assets and often substantially exceeds the amount of the debt.

Moreover, in all likelihood, there will be additional debt by the time of default, as pointed out above. Since such debt--as well as the refinancing of existing debt--will be incurred as the company approaches default, it is more likely to be on a secured basis (or directly to the entity that holds the operating assets, in the case of an operating company/holding company structure).

To the extent that certain obligations have a priority claim on the company's assets, lower-ranking obligations are at a disadvantage because a smaller pool of assets will be available to satisfy the remaining claims. As mentioned above, debt can be junior by virtue of being contractually subordinated--that is, the terms of the issue specifically provide that debt holders will receive recovery in a bankruptcy only after the claims of other creditors have been satisfied.

Another case is when the issue is unsecured, while assets representing a significant portion of the company's value collateralize secured borrowings. (If the collateral that secures a particular debt issue is of dubious value, while the more valuable collateral is pledged to another loan, even secured debt may be notched down from the corporate credit rating.)

A third form of disadvantage can arise if a company conducts its operations through an operating subsidiary/holding-company structure. In this case, if the whole group is bankrupt, creditors of the subsidiaries--including holders of even contractually subordinated debt--would have the first claim to the subsidiaries' assets, while creditors of the parent would have only a junior claim, limited to the residual value of the subsidiaries' assets remaining after the subsidiaries' direct liabilities have been satisfied. The disadvantage of parent-company creditors owing to the parent/subsidiary legal structure is known as "structural subordination." Even if the group's operations are splintered among many small subsidiaries, the individual debt obligations of which have only dubious recovery prospects, the parent-company creditors may still be disadvantaged compared with a situation in which all creditors would have an equal claim on the assets.

If a company has an atypical mix of assets, the 20% threshold could be higher or lower to reflect the relative amounts of better or worse assets. Goodwill especially is suspect, considering its likely value in a default scenario. In applying the notching guidelines, Standard & Poor's generally eliminates from total assets goodwill in excess of a "normal" amount--10% of total adjusted assets. As distinct from goodwill, intangibles are considered potentially valuable--for example, established brands in the consumer products sector. We do not, however, perform detailed asset appraisals or attempt to postulate specifically about how market values might fluctuate in a hypothetical stress scenario (except in the case of secured debt).

The concept behind these thresholds is to measure material disadvantage with respect to the various layers of debt. At each level, as long as the next layer of debt still enjoys plenty of asset coverage, we do not consider the priority of the top layers as constituting a real disadvantage for the more junior issuers. Accordingly, the nature of the individual company's asset is important: If a company has an atypical mix of assets, the thresholds could be higher or lower to reflect the relative amounts of better or worse assets.

The relative size of the next layer of debt also is important. If the next layer is especially large--in relation to the assets assumed to remain after satisfying the more senior layers--then coverage is impaired. There are numerous LBOs financed with outsized issues just below the senior layers. Although the priority debt may be small (below the threshold levels), it poses a real disadvantage for junior issues: given the paucity of coverage remaining, the junior debt should be notched down.

One other note to keep in mind is that "absolute trumps relative," i.e., if for structural or other issue-specific (or jurisdiction specific) reasons we can confidently anticipate recovery of more than 30% (and less than 70%), we would equate the issue rating with the corporate credit rating, regardless of the result of the priority debt calculation. Similarly, if there were structural, issue-specific, or jurisdiction-specific reasons to anticipate recovery of less than 30%, we would rate the issue one notch below the corporate credit rating. These absolute recovery ranges are similar to those used for speculative-grade issue rating guidelines where we assign recovery ratings.

Application of guidelines

In applying the guidelines above, lease obligations--whether capitalized in the company's financial reporting or kept off balance sheet as operating leases as priority debt--and the related assets are included on the asset side. Similarly, sold trade receivables and securitized assets are added back, along with an equal amount of priority debt. Other creditors are just as disadvantaged by such financing arrangements as by secured debt. In considering the surplus cash and marketable securities of companies that presently are financially healthy, we assume neither that the cash will remain available in the default scenario, nor that it will be totally dissipated, but rather that, over time, this cash will be reinvested in operating assets that mirror the company's current asset base, subject to erosion in value of the same magnitude.

Local- and foreign-currency issue ratings.

In determining local-currency issue ratings, the point of reference is the local-currency corporate credit rating: local-currency issue ratings may be notched down one notch from the local-currency corporate credit rating in the case of investment-grade issuers, or one or two notches in the case of speculative-grade issuers. A foreign-currency corporate credit rating is sometimes lower than the local-currency corporate credit rating, reflecting the risk that a sovereign government could take actions that would impinge on the company's ability to meet foreign-currency obligations. But junior foreign-currency issues are not notched down from the foreign-currency corporate credit rating, because the government action would apply regardless of the senior/junior character of the debt. Of course, the issue would never be rated higher than if it had been denominated in local currency. For example, if a local-currency corporate credit rating were 'BB+' and the foreign-currency corporate credit rating were 'BB-', subordinated foreign currency-denominated issues could be rated 'BB-'. But, if a local-currency corporate credit rating were 'BB+' and the foreign-currency corporate credit rating were 'BB', subordinated foreign-currency denominated issues would be rated 'BB-', as would subordinated local-currency denominated issues.

Rating above the corporate credit rating: "Notching up"

We generally do not perform specific default scenario modeling for investment-grade companies, so identifying issues with superior recovery characteristics usually relies on security provisions of a specific issue. Candidates for notching up are secured debt issues, where collateral consists of assets with a well-established track record with respect to recovery, such as first mortgage bonds of regulated utilities.

As explained above, the weight given to recovery in assigning issue ratings diminishes as one moves up the rating spectrum. When a rating on a company is in the 'BBB' category, its well-secured debt is rated one or two notches above the corporate rating, depending on the extent of the collateral coverage. For the 'A' category, the maximum addition is limited to one notch--and this applies only when full recovery is anticipated. For 'AAA' and 'AA' categories, notching-up is phased out entirely.

Structural subordination

At times, a parent and its affiliate group have distinct default risks. The difference in risk may arise from covenant restrictions, regulatory oversight, or other considerations. This is the norm for holding companies of insurance operating companies and banks. In such situations, there are no fixed limits governing the gaps between corporate credit ratings of the parent and its subsidiaries. The holding company has higher default risk, apart from postdefault recovery distinctions. If such a holding company issued both senior and junior debt, its junior obligations would be notched relative to the holding company's corporate credit rating by one or two notches.

Often, however, a parent holding company with one or more operating companies is viewed as a single economic entity. When the default risk is considered the same for the parent and its principal subsidiaries, they are assigned the same corporate credit rating. Yet, in a liquidation, holding-company creditors are entitled only to the residual net worth of the operating companies remaining after all operating company obligations have been satisfied. Parent-level debt issues are notched down to reflect structural subordination when the priority liabilities create a material disadvantage for the parent's creditors, after taking into account all mitigating factors. In considering the appropriate rating for a specific issue of parent-level debt, priority liabilities encompass all third-party liabilities (not just debt) of the subsidiaries--including trade payables, pension and retiree medical liabilities, and environmental liabilities--and any relatively better positioned parent-level liabilities. (For example, parent-level borrowings collateralized by the stock of the subsidiaries would be disadvantaged relative to subsidiary liabilities, but would rank ahead of unsecured parent-level debt.) Potential mitigating factors include:

Guarantees.

Guarantees by the subsidiaries of parent-level debt (i.e., upstream guarantees) may overcome structural subordination by putting the claims of parent company creditors on a pari passu basis with those of operating company creditors. Such guarantees have to be enforceable under the relevant national legal system(s), and there most be no undue concern regarding potential allegations of fraudulent conveyance. Although joint and several guarantees from all subsidiaries provide the most significant protection, several guarantees by subsidiaries accounting for a major portion of total assets would be sufficient to avoid notching of parent debt issues in most cases.

The legal analysis outcome depends on the specific fact pattern, not legal documentation--so one cannot standardize the determination. But, if either the guarantor company received value or was solvent for a sufficiently long period subsequent to issuing the guarantee, the upstream guarantee should be valid. Accordingly, we consider upstream guarantees valid if any of these conditions are met:

- The proceeds of the guaranteed obligation are provided (downstreamed) to guarantor. It does not matter whether the issuer downstreams the money as an equity infusion or as a loan. Either way, the financing benefits the operations of the subsidiary which justifies the guarantee;
- The legal risk period--ordinarily, one or two years from entering into the guarantee--has passed;
- There is a specific analytical conclusion that there is little default risk during the period that the guarantee validity is at risk; or
- The rating of the guarantor is at least 'BB-' in jurisdictions that involve a two-year risk, or at least 'B+' in jurisdictions with one year risk.

Operating assets at the parent.
If the parent is not a pure holding company, but rather also directly owns certain operating assets, this gives the parent's creditors a priority claim to the parent-level assets. This offsets, at least partially, the disadvantage that pertains to being structurally subordinated with respect to the assets owned by the subsidiaries.

Diversity.
When the parent owns multiple operating companies, more liberal notching guidelines may be applied to reflect the benefit the diversity of assets might provide. The threshold guidelines are relaxed (but not eliminated) to correspond with the extent of business and/or geographic diversification of the subsidiaries. For bankrupt companies that own multiple, separate business units, the prospects for residual value remaining for holding company creditors improve as individual units wind up with shortfalls and surpluses. Also, holding companies with diverse businesses--in terms of product or geography--have greater opportunities for dispositions, asset transfers, or recapitalization of subsidiaries. If, however, the subsidiaries are operationally integrated, economically correlated, or regulated, the company's flexibility to reconfigure is more limited.

Concentration of debt.
If a parent has a number of subsidiaries, but the preponderance of subsidiary liabilities are concentrated in one or two of these, e.g., industrial groups having finance or trading units, this concentration of liabilities can limit the disadvantage for parent-company creditors. Although the net worth of the leveraged units could well be eliminated in the bankruptcy scenario, the parent might still obtain recoveries from its relatively unleveraged subsidiaries. In applying the notching guideline in such cases, it may be appropriate to eliminate the assets of the leveraged subsidiary from total assets, and its liabilities from priority liabilities. The analysis then focuses on the assets and liabilities that remain, and the standard notching guideline must be substituted by other judgments regarding recovery prospects.

Downstream loans.
If the parent's investment in a subsidiary is not just an equity interest, but also takes the form of downstream senior loans, this may enhance the standing of parent-level creditors because they would have not only a residual claim on the subsidiary's net worth, but also a debt claim that could be pari passu with other debt claims. However, most intercompany claims are subject to equitable subordination and/or other elimination in the bankruptcy process. Such assessment of downstream advances must take into account the applicable legal framework. (On the other hand, if the parent has borrowed funds from its subsidiaries, the resulting intercompany parent-level liability could further dilute the recoveries of external parent-level creditors.)

Adjustments.
We eliminate from the notching calculations subsidiaries' deferred tax assets and liabilities and other accounting accruals and provisions that are not likely to have clear economic meaning in a default.

Speculative grade.

For speculative-grade issuers, we perform a fundamental recovery analysis, which is communicated via our recovery ratings. The different levels of recovery are factored into our debt issue ratings by adding or subtracting notches from the corporate credit rating (see table 6).

Table 6

Recovery Rating Scale And Issue Rating Criteria

(For issuers with a speculative-grade corporate credit rating)

Recovery rating	Recovery description	Recovery expectations (%)*	Issue rating notches relative to corporate credit rating
1+	Highest expectation, full recovery	100¶	+3 notches
1	Very high recovery	90–100	+2 notches
2	Substantial recovery	70–90	+1 notch
3	Meaningful recovery	50–70	0 notches
4	Average recovery	30–50	0 notches
5	Modest recovery	10–30	-1 notch
6	Negligible recovery	0–10	-2 notches

*Recovery of principal plus accrued but unpaid interest at the time of default. ¶Very high confidence of full recovery resulting from significant overcollateralization or strong structural features.

Recovery ratings assess a debt instrument's ultimate prospects for recovery of estimated principal and pre-petition interest (i.e., interest accrued but unpaid at the time of default) given a simulated payment default. Our recovery methodology focuses on estimating the percentage of recovery that debt investors would receive at the end of a formal bankruptcy proceeding or an informal out-of-court restructuring. Lender recoveries could be in the form of cash, debt or equity securities of a reorganized entity, or some combination thereof.

We focus on nominal recovery (rather than discounted present value recovery) because we believe discounted recovery is better identified independently by market participants who can apply their own preferred discount rate to our nominal recovery. (However, in jurisdictions with anticipated workout periods of longer than two to three years, we factor the delay into both recovery ratings and issue ratings to account for the time value of money and the inherent incremental uncertainty.)

While informed by historical recovery data, our recovery ratings incorporate fundamental deal-specific, scenario-driven, forward-looking analysis. They consider the impact of key structural features, intercreditor dynamics, the nature of insolvency regimes, and multijurisdictional issues in the context of a simulated default.

We acknowledge that recovery analysis (including default modeling, valuation, and restructuring dynamics) is complex and does not lend itself to precise or certain predictions. Outcomes invariably involve unforeseen events and are subject to extensive negotiations that are influenced by the subjective judgments, negotiating positions, and agendas of the various stakeholders. Even so, we believe our methodology of focusing on a company's unique and fundamental credit risks--together with the composition and structure of its debt, legal organization, and nondebt liabilities--provides valuable insight into creditor recovery prospects.

In this light, our recovery ratings are intended to provide educated approximations of postdefault recovery rates, rather than exact forecasts. Recovery ratings, when viewed together with a company's risk of default as estimated by our corporate credit rating, can help investors evaluate a debt instrument's risk/reward characteristics and determine

their expected return.

Jurisdiction-specific adjustments for recovery and issue ratings.
Full-blown, fundamental recovery analysis is limited to jurisdictions where insolvency regimes are reasonably well established and sufficient precedent and data are available. In other jurisdictions, we do not assign recovery ratings--and the basis for rating a specific issue different from than the corporate credit rating is similar to that used in investment-grade situations. That is, we employ a simple rule-of-thumb approach to identify issues that are junior--and thereby materially disadvantaged with respect to recovery prospects. If claims that come ahead of a given debt issue equal 15% of assets, we subtract one notch from the corporate credit rating level; if such priority claims reach the 30% level, we subtract two notches. We do not rate issues more than two notches below the corporate credit rating on the basis of inferior recovery considerations.

We are in the process of reviewing all significant jurisdictions around the world to assess how insolvency proceedings in practice affect postdefault recovery prospects and to consistently incorporate jurisdiction-specific adjustments. With the help of local insolvency practitioners, we assess each jurisdiction's creditor friendliness--in theory as well as in practice (about 30 jurisdictions have been assessed to date).

The four main factors that shape our analysis of the jurisdictions' creditor friendliness are:

- Security,
- Efficiency and control,
- Adherence to priorities, and
- Time to resolution.

Based on these factors, we classify the reviewed countries into three categories, according to their creditor friendliness. This classification enables us to make jurisdiction-specific adjustments to our recovery analysis. We cap both recovery ratings and the differential between the issuer credit and debt issue ratings in countries with debtor-friendly insolvency regimes. (See "Recovery: Jurisdiction-Specific Adjustments To Recovery And Issue Ratings," published July 5, 2007, on RatingsDirect.)

Recovery Methodology For Industrials

Recovery analytics for industrial issuers has three basic components: determining the most likely path to default for a company; valuing the company following default; and distributing that value to claimants that we identify, based on the relative priority of each claimant.

Establishing a simulated path to default

This step is a fundamental; we must first understand the forces most likely to cause a default before we can estimate a level of cash flow at default or value a company. This step draws on the company and sector knowledge of our credit analysts to formulate and quantify the factors most likely to cause a company to default, given its unique business risks and financial risks.

At the outset of this process, we deconstruct the borrower's cash flow projections to understand management's general business, industry, and economic expectations. Once we understand management's view, we make appropriate adjustments to key economic, industry, and firm specific factors to simulate a payment default. While we recognize that there are many possible factors--both foreseen and unforeseen--that could lead to a default, we

focus on the key operating factors that would most likely contribute to default.

Forecasting cash flow at default

The simulated default scenario is our assessment of the borrower's most likely path to a hypothetical payment default. The "insolvency proxy" is the point along that path that the company would default. The insolvency proxy is ordinarily defined as the point at which funds available plus free cash flow is exceeded by fixed charges.

The terms in this equation are:

Funds available.
The sum of balance sheet cash and revolving credit facility availability (in excess of the minimal amount a company needs to operate its business at its seasonal peak).

Free cash flow.
EBITDA in the year of default, less a minimal level of required maintenance capital expenditures, less cash taxes, plus or minus changes in working capital. For default modeling and recovery estimates, our EBITDA and free cash flow estimates ignore noncash compensation expenses and do not use our adjustments for operating leases.

Fixed charges.
The sum, in the year of default, of:

- Scheduled principal amortization. Bullet or ballooning maturities are not treated as fixed charges, because lenders typically would refinance these amounts as long as a company can otherwise comfortably service its fixed charges;
- Required cash interest payments, including assumed increases to LIBOR rates on floating-rate debt and to the margin charged on debt obligations that have pricing grids or maintenance financial covenants; and
- Other cash payments the borrower is either contractually or practically obligated to pay that are not already captured as an operating expense. (Lease payments, for example, are accounted for within free cash flow and are not considered a fixed charge.)

A projected default may occur even if fixed charges are fully covered in a few special circumstances:

- Strategic bankruptcy filings, when a borrower may attempt to take advantage of the insolvency process primarily to obtain relief from legal claims or onerous contracts;
- When a borrower in distress may rationally be expected to retain a large amounts of cash (e.g., to prepare for a complex, protracted restructuring; if it is in a very capital-intensive industry; if it is in a jurisdiction that does not allow for super-priority standing for new credit in a postpetition financing); or
- When a borrower's financial covenants have deteriorated beyond the level at which even the most patient lender could tolerate further amendments or waivers.

Free cash flow is not necessarily equal to the level at point of default, though. Cash flow may decline below the insolvency proxy if the borrower's operating performance is expected to continue to deteriorate as a result of whatever competitive and economic conditions are assumed in the simulated default scenario. In any event, we attempt to identify a level of cash flow as one basis for our valuation.

Determining valuation

We consider a variety of valuation methodologies, including market multiples, discounted cash flow (DCF) modeling, and discrete asset analysis. The market multiples and DCF methods are used to determine a company's

enterprise value as a going concern. This is generally the most appropriate approach when our simulated default and recovery analysis indicates that the borrower's reorganization (or the outright sale of the ongoing business or certain segments) is the most likely outcome of an insolvency proceeding.

We use discrete asset valuation most often for industries in which this valuation approach is typically used, or when the simulated default scenario indicates that the borrower's liquidation is the most likely outcome of insolvency.

If a company is expected to reorganize, but certain creditors hold collateral consisting of only particular assets, then enterprise value is inappropriate--and we assess the collateral based in its discrete values.

Market multiples

The key to valuing a company using a market-multiples approach is to select appropriate comparable companies, or comps. The analysis should include several comps similar to the company being valued with respect to business lines, geographic markets, margins, revenue, capital requirements, and competitive position. Of course, an ideal set of comps does not always exist, so analytical judgment often is required to adjust for differences in size, business profiles, and other attributes. In addition, in the context of a recovery analysis, the multiples must consider the competitive and economic environments assumed in our simulated default scenario, which are often very different than present conditions. As a result, our analysis strives to consider a selection of multiples and types of multiples.

Ideally, we are interested in multiples for similar companies that have reorganized because of circumstances consistent with our simulated default scenario. In practice, however, the existence of such "emergence" multiple comps are rare. As a result, our analysis often turns to transaction or purchase multiples for comparable companies, because these generally are more numerous. With transaction multiples, we try to use forward multiples (purchase price divided by projected EBITDA), rather than trailing multiples (purchase price divided by historical EBITDA), because we believe forward multiples, which incorporate the benefit of perceived cash flow synergies used to justify the purchase price, provide a more appropriate reference point. In addition, trading multiples for publicly traded companies can be useful because they allow us to track how multiples change over economic and business cycles. This is especially relevant for cyclical industries and for sectors entering a different stage of development, or experiencing changing competitive conditions.

A selection of multiples helps match our valuation with the conditions assumed in our simulated default scenario. For example, a company projected to default in a cyclical trough may warrant a higher multiple than one expected to default at a cyclical midpoint. Further, two companies in the same industry may merit meaningfully different multiples if one is highly leveraged and at risk of default from relatively normal competitive stresses, while the other is unlikely to default unless there is a large unexpected fundamental deterioration in the cash flow potential of the business model (which could make historical sector multiples irrelevant).

Our multiples analysis may also consider alternative industry-specific multiples--such as subscribers, hospital beds, recurring revenue, etc.--where appropriate. Alternatively, such metrics may serve as a check on the soundness of a valuation that relied on an EBITDA multiple, DCF, or discrete asset approach.

Discounted cash flow

Our valuation is based on the long-term operating performance of the reorganized company. We use a perpetuity growth formula, which contemplates a long-term steady-state growth rate deemed appropriate for the borrower's business. However, when applicable, we start with specific annual cash flow forecasts for a period of time following reorganization, while relying on the perpetuity growth formula for subsequent periods.

Discrete asset valuation

We value the relevant assets by applying industry- and asset-specific advance rates or third-party appraisals.

Identifying and estimating the value of debt and nondebt claims

After valuing a company, we identify and quantify the debt obligations and other material liabilities that would be expected to have a claim against the company. Potential claims fall into three broad categories:

- Principal and accrued interest on all debt outstanding at the point of default, whether issued at the operating company, subsidiary, or holding company level;
- Bankruptcy-related claims, such as debtor-in-possession (DIP) financing and administrative expenses for professional fees and other bankruptcy costs; and
- Other nondebt claims, such as taxes payable, certain securitization programs, trade payables, deficiency claims on rejected leases, litigation liabilities, and unfunded postretirement obligations.

Our analysis of these claims and their potential values takes into consideration each borrower's particular facts and circumstances, as well as the expected impact on the claims as a result of our simulated default scenario.

We estimate debt outstanding at the point of default by reducing term loans by scheduled amortization up to the point of our simulated default. We assume that all committed debt facilities, such as revolving credit facilities and delayed draw term loans, are fully drawn. For asset-based lending (ABL) facilities, we consider whether the borrowing base formula would allow the company to fully draw the facility in a simulated default scenario. For LOCs, especially those issued under dedicated synthetic LOC tranches, we assess whether these contingent obligations are likely to be drawn.

Our estimate of debt outstanding at default also includes an estimate of pre-petition interest, which is calculated by adding six months of interest (based on historical data from Standard & Poor's LossStats® database) to our estimated principal amount at default. The inclusion of pre-petition interest makes our recovery analysis more consistent with banks' credit risk capital requirements under the Basel II Framework.

Our analysis focuses on the recovery prospects for the debt instruments in a company's current or pro forma debt structure, and generally does not make estimates for other debt that may be issued prior to a default. We feel that this approach is prudent and more relevant to investors because the amount and composition of any additional debt (secured, unsecured, and/or subordinated) may materially affect lender recovery rates, and it is not possible to know these particulars in advance. Further, incremental debt added to a company's capital structure may materially affect its probability of default, which could in turn affect all aspects of our recovery analysis (i.e., the most likely path to default, valuation given default, and LGD). Consequently, changes to a company's debt structure are treated as events that require a reevaluation of our default and recovery analysis.

Still, we take into account the potential for additional debt by limiting the recovery ratings assigned to unsecured debt--and, in turn, the notches above the corporate rating that might be added. For companies with a 'B' category rating, the recovery rating would ordinarily be limited to '2'. For companies in the 'BB' category, we would limit the recovery ratings assigned to unsecured issues to '3'. (Because they are further from potential default, there is a greater likelihood that interim change of their capital structure would occur.)

Also, we add more debt to the extent that this is consistent with our specific expectations for a given issuer. Similarly, we may assume the repayment of near-term debt maturities--without refinancing--if the company is

expected to retire these obligations and has the liquidity to do so. Furthermore, revolving credit facilities with near-term maturities are generally assumed to roll over with similar terms.

Determining distribution of value

Distributions are assumed to follow a waterfall approach that reflects the relative seniority of the claimants, reflecting the specific laws, customs, and insolvency regime practices for the relevant jurisdictions for a company. In the U.S., our general assumption of the relative priority of claimants is:

- Super-priority claims, such as DIP financing;
- Administrative expenses;
- Federal and state tax claims;
- Senior secured claims;
- Junior secured claims;
- Senior unsecured debt and nondebt claims;
- Subordinated claims;
- Preferred stock; and
- Common stock.

However, this priority of claims is subject to two critical caveats:

- The beneficial position of secured creditor claims, whether first-priority or otherwise, is only valid to the extent that the collateral supporting such claims is equal to, or greater than, the amount of the claim. If the collateral value is insufficient to fully cover a secured claim, then the uncovered amount or deficiency balance will be pari passu with all other senior unsecured claims.
- Structural issues may alter the priority of certain claims against specific assets or entities in an organization based on the company's legal entity structure and the relevant terms and conditions of the debt instruments.

The recovery prospects for different debt instruments of the same type (senior secured, senior unsecured, senior subordinated, etc.) might be very different, depending on the structure of the transactions. We review a company's debt and legal entity structure, the terms and conditions of the various debt instruments as they pertain to borrower and guarantor relationships, collateral pledges and exclusions, facility amounts, covenants, and debt maturities. In addition, we must understand the breakout of the company's cash flow and assets as it pertains to its legal organizational structure, and consider the effect of key jurisdictional and intercreditor issues. Key structural issues to explore include identifying:

- Higher priority liens on specific assets by forms of secured debt such as mortgages, industrial revenue bonds, and ABL facilities;
- Nonguarantor subsidiaries (domestic or foreign) that do not guarantee a company's primary debt obligations or provide asset pledges to support the company's secured debt;
- Claims at nonguarantor subsidiaries that will have a higher priority (i.e., a structurally superior) claim on the value related to such entities;
- Material exclusions to the collateral pledged to secured lenders, including the lack of asset pledges by foreign subsidiaries or the absence of liens on significant domestic assets, including the stock of foreign or domestic nonguarantor subsidiaries (whether because of concessions demanded by and granted to the borrower, poor transaction structuring, regulatory restrictions, or limitations imposed by other debt indentures); and
- Whether a company's foreign subsidiaries are likely to file for bankruptcy in their local jurisdictions as part of the

default and restructuring process.

While our analysis typically reduces the enterprise value by the amount of secured claims in accordance with its priority, there may be meaningful excess collateral value that is available to other creditors, especially those with a second lien. For example, this is often the case when secured debt collateralized by a first lien on all noncurrent assets also takes a second-priority lien on working capital assets that are already pledged to support an asset-based revolving credit facility.

Significant domestic or foreign nonguarantor entities must be identified because these entities have not explicitly promised to repay the debt. Thus, the portion of enterprise value derived from these subsidiaries does not directly support the rated debt. As a result, debt and certain nondebt claims at these subsidiaries have a structurally higher-priority claim against the subsidiary value. Accordingly, the portion of the company's enterprise value stemming from these subsidiaries must be estimated and treated separately in the distribution of value to creditors. This requires an understanding of the breakout of a company's cash flow and assets. Because these subsidiaries are still part of the enterprise being evaluated, any equity value that remains after satisfying the structurally superior claims would be available to satisfy other creditors of the entities that own these subsidiaries. Well-structured debt will often include covenants to restrict the amount of structurally superior debt that can be placed at such subsidiaries. Further, well-structured secured debt will take a lien on the stock of such subsidiaries to ensure a priority interest in the equity value available to support other creditors. In practice, the pledge of foreign subsidiary stock owned by U.S. entities is usually limited to 65% of voting stock for tax reasons. The residual value that is not captured by secured lenders through stock pledges would be expected to be available to all senior unsecured creditors on a pro rata basis.

Material assets (other than whole subsidiaries or subsidiary stock) not pledged to support secured debt would be shared by all senior unsecured creditors on a pro rata basis.

An evaluation of whether foreign subsidiaries would also be likely to file for bankruptcy is also required, because this would likely increase the cost of the bankruptcy process and create potential multijurisdictional issues that could affect lender recovery rates. The involvement of foreign courts in a bankruptcy process presents a myriad of complexities and uncertainties. For these same reasons, however, U.S.-domiciled borrowers that file for bankruptcy seldom also file their foreign subsidiaries without a specific benefit or reason for doing so. Consequently, we generally assume that foreign subsidiaries of U.S. borrowers do not file for bankruptcy unless there is a compelling reason to assume otherwise, such as a large amount of foreign debt that needs to be restructured to enable the company to emerge from bankruptcy. When foreign subsidiaries are expected to file bankruptcy, our analysis will be tailored to incorporate the particulars of the relevant bankruptcy regimes.

Intercreditor issues may affect the distribution of value and result in deviations from absolute priority (i.e., maintenance of the priority of the claims, including structural considerations, so that a class of claims will not receive any distribution until all classes above it are fully satisfied) In practice, Chapter 11 bankruptcies are negotiated settlements and the distribution of value may vary somewhat from the ideal implied by absolute priority for a variety of inter-creditor reasons, including, in the U.S., "accommodations" and "substantive consolidation."

Accommodations refer to concessions granted by senior creditors to junior claimants in negotiations to gain their cooperation in a timely restructuring. We generally do not explicitly model for accommodations because it is uncertain whether any concessions will be granted, if those granted will ultimately have value (e.g., warrants as a

contingent equity claim), or whether the value will be material enough to meaningfully affect our projected recovery rates.

Substantive consolidation--in its pure form--represents a potentially drastic deviation from the ordering of priorities and distribution of value in bankruptcy plans of reorganization. In a true "legal" substantive consolidation, the assets and liabilities of an affiliated corporate group are collapsed into a single legal entity. This effectively would eliminate the credit support provided by structural priority, by treating creditors of the parent pari passu with creditors of operating units. However, true substantive consolidation is a rarely implemented, discretionary judicial doctrine. Our analysis relies on the low likelihood of true substantive consolidation, though we acknowledge that this risk could affect recoveries in certain cases.

Many more reorganization bankruptcy plans do involve a consolidation of a more limited nature. These consolidations do not radically affect the priority of external creditor claims--but do eliminate many intercompany claims, guaranties, and distributions and simplify the plan approval process and distributions to creditors under the plan. These "deemed" consolidations typically promote the resolution of complex multiparty negotiations and settlements along the lines of the relative legal priorities and bargaining strengths of creditors.

The bankruptcy process involves an inherent element of uncertainty. Indeed, the impact of deemed consolidation on recovery can vary. The extent to which more-senior creditors are willing to make concessions to more junior creditors to keep the process moving smoothly and to arrive at a consensual plan is impossible to predict.

However, in practice, the result of court-ordered consolidation is not sufficiently material enough of the time to be considered in our recovery rating assignments.

Surveillance of recovery ratings

Our recovery analysis at origination is unlikely to identify all of the actual claims at bankruptcy, or precisely predict the value of the company or the collateral given a default. Ratings are subject to periodic and event-specific surveillance. Factors that could affect our recovery analysis or ratings include:

- Acquisitions and divestitures;
- Updated valuation assumptions;
- Shifts in the profit and cash flow contributions of borrower, guarantor, or nonguarantor entities;
- Changes in debt or the exposure to nondebt liabilities;
- Intercreditor dynamics; and
- Changes in bankruptcy law.

Features of U.S.-domiciled corporate bankruptcies

Debtor in possession financing.

DIP facilities are usually super-priority claims that enjoy repayment precedence over unsecured debt and, in certain circumstances, secured debt. However, it is not possible to accurately quantify the size or likelihood of DIP financing or to forecast how DIP financing may affect the recovery prospects for different creditors. This is because the size or existence of a theoretical DIP commitment is unpredictable, DIP borrowings at emergence may be substantially less than the DIP commitment, and such facilities may be used to fully repay overcollateralized pre-petition secured debt. Further, the presence of DIP financing might actually help creditor recovery prospects by allowing companies to restructure their operations and preserve the value of their businesses. As a result of these uncertainties, estimating the impact of a DIP facility is beyond the scope of our analysis, even though we recognize that DIP facilities may

materially impact recovery prospects in certain cases.

Administrative expenses.
Administrative expenses relate to professional fees and other costs associated with bankruptcy that are required to preserve the value of the estate and complete the bankruptcy process. These costs must be paid prior to exiting bankruptcy, making them effectively senior to those of all other creditors. The dollar amount and materiality of administrative claims usually correspond to the complexity of a company's capital structure. We expect that these costs will be less for simple capital structures that can usually negotiate an end to a bankruptcy quickly and may even use a prepackaged bankruptcy plan. Conversely, these costs are expected to be greater for large borrowers with complex capital structures where the insolvency process is often characterized by protracted multiple party disputes that drive up bankruptcy costs and diminish lender recoveries. When using an enterprise value approach, our methodology estimates the value of these claims as a percentage of the borrower's emergence enterprise value thusly:

- Three percent for capital structures with one primary class of debt;
- Five percent for two primary classes of debt (first- and second-lien creditors may be adversaries in a bankruptcy proceeding and are treated as separate classes for this purpose);
- Seven percent for three primary classes of debt; and
- Ten percent for certain complex capital structures.
- When using a discrete asset valuation approach, these costs are implicitly accounted for in the orderly liquidation value discounts used to value a company's assets.

Other nondebt claims

Taxes.
Various U.S. government authorities successfully assert tax claims as either administrative, priority, or secured claims. However, it is very difficult to project the level and status of such claims at origination (e.g., tax disputes en route to default are extremely hard to predict). However, their overall amount is seldom material enough to affect lender recoveries, so we generally do not reduce our expectation for lenders' recovery by estimating potential tax claims.

Swap termination costs.
The U.S. Bankruptcy Code accords special treatment for counterparties to financial contracts, such as swaps, repurchase agreements, securities contracts, and forward contracts, to ensure continuity in the financial markets and to avoid systemic risk (so long as the type of contract and the type of counterparty fall within certain statutory provisions). Recent amendments to the Bankruptcy Code expanded this safe harbor by, among other things, including within the definition of a "swap" a range of transactions widely used in the capital markets (such as total return swaps and credit swaps) and expanding the definitions of counterparties (whether to swaps, repurchase agreements, securities contracts, or forward contracts) eligible to exercise these rights. In addition to not being subject to the automatic stay that generally precludes creditors from exercising their remedies against the debtor, these financial contract counterparties have the right to liquidate, terminate, or accelerate the contract in a bankruptcy. Most currency and interest rate swaps related to secured debt are secured on a pari passu basis with the respective loans. Other swaps are likely to be unsecured. Quantifying such claims is beyond the scope of our analysis.

Securitizations.
Standard accounts receivable securitization programs involve the sale of certain receivables to a bankruptcy-remote special purpose entity in an arms length transaction under commercially reasonable terms. The assets sold are not

legally part of the debtor's estate (although in some circumstances they may continue to be reported on the company's balance sheet for accounting purposes), and the securitization investors are completely reliant on the value of the assets they purchased to generate their return. As a result, the securitization investors do not have any recourse against the estate and we do not consider them claimants when we use an enterprise valuation approach in our default and recovery analysis. However, the debtor emerging from bankruptcy will need to finance its trade receivables anew, creating an incremental financing requirement that must be considered in the recovery analysis.

When a discrete asset valuation approach is used, the sold receivables are not available to any creditors. Additionally, future-flow types of securitization, which securitizes all or a portion of the borrower's future revenue and cash flow (typically related to particular contracts, patents, trademarks, or other intangible assets), would effectively reduce all or a part of the enterprise value available to other corporate creditors.

Trade creditor claims.

Typically, trade creditor claims are unsecured claims that rank pari passu with a borrower's other unsecured obligations. However, because a borrower's viability as a going concern hinges on continued access to goods and services, some pre-petition claims are either paid in the ordinary course or treated as priority administrative claims. This concession to critical trade vendors ensures that they remain willing to carry on their relationships with the borrower during the insolvency proceedings, thereby preserving the value of the estate and enhancing the recovery prospects for all creditors. Our analysis assumes that these costs continue to be paid as part of the company's normal working capital cycle.

Accordingly, we include trade credit claims as priority obligations only to the extent that we believe there will be valid claims at the time of emergence--or that the company will incur additional debt (including DIP facilities) to pay those claims.

Leases.

U.S. bankruptcy law provides companies the opportunity to accept or reject leases during the bankruptcy process. (For commercial real property leases, the review period is limited to 210 days, including a one-time, 90-day extension, unless the lessor agrees to an extension.) If a lease is accepted, the company is required to keep rent payments on the lease current, meaning that there will be no claim against the estate. This also allows the lessee to continue to use the leased asset, with the cash flow (i.e., value) derived from the asset available to support other creditors.

If a lease is rejected, the company gives up the use of the asset. (The lessor may file a general unsecured claim against the estate for damages arising from the breach of contract.) We estimate the impact of lease rejection, starting with a lease rejection rate for the firm based on the types of assets leased, the industry, and our simulated default scenario. Leases are typically rejected for one of three reasons:

- The lease is priced above market rates;
- The leased asset is generating negative or insufficient returns; or
- The leased asset is highly vulnerable to obsolescence during the term of the lease.

Our evaluation may ballpark the rejection rate by assuming it matches the percentage decline in revenue in our simulated default scenario or, if applicable, by looking at common industry lease rejection rates. Case-specific considerations might include, for example, that leased assets are unusually old, underused, or priced above current market rates; a higher rejection rate in such cases may be warranted.

In bankruptcy, the amount of unsecured claims from rejected leases is determined by taking the amount of lost rental income and subtracting the net value available to the lessor by selling or releasing the asset in its next best use. However, the deficiency claims of commercial real estate lessors is further restricted to the greater of one year's rent or 15% of the remaining rental payments, not to exceed three years' rent. Lessors of assets other than commercial real property do not have their potential deficiency claims capped, but such leases are generally not material and are usually for relatively short periods of time. With these issues in mind, we quantify lease deficiency claims for most companies by multiplying their estimated lease rejection rate by three times their annual rent.

However, there are a few exceptions to our general approach. Deficiency claims for leases of major transportation equipment (e.g., aircraft, railcars, and ships) are specifically analyzed because these lease obligations do not have their claims capped, may be longer term, and are typically for substantial amounts. In addition, we use a lower rent multiple for cases in which a company relies primarily on very short-term leases (three years or less). Further, we do not include any deficiency claim for leases held by individual asset-specific subsidiaries that do not have credit support from other entities (by virtue of guarantees or co-lessee relationships) because of the lack of recourse against other entities and the likelihood that these subsidiaries are likely to be worthless if the leases are rejected. (This situation was relevant in many of the movie exhibitor bankruptcies in early 2000.)

Employment-related claims.
Material unsecured claims may arise when a debtor rejects, terminates, or modifies the terms of employment or benefits for its current or retired employees. To reflect this risk for unsecured debtholders, we are likely to include some level of employment-related claims for companies--but only where uncompetitive labor or benefits costs are a factor in our simulated default scenario.

Pension plan termination claims.
The ability to terminate a defined benefit pension plan is provided under the U.S. Employee Retirement Income Security Act (ERISA). Under ERISA, these plans may be terminated voluntarily by the debtor as the plan sponsor, or involuntarily by the Pension Benefit Guaranty Corporation (PBGC) as the agency that insures plan benefits. Typically, any termination during bankruptcy will be a "distress termination," in which the plan assets would be insufficient to pay benefits under the plan. However, the bankruptcy of the plan sponsor does not automatically result in the termination of its pension plans, and even underfunded plans may not necessarily be terminated; the debtor must demonstrate that it would not be able to successfully reorganize unless the plan is terminated.

In a distress termination, the PBGC assumes the liabilities of the pension plan up to the limits prescribed under ERISA and gets an unsecured claim in bankruptcy against the debtor for the unfunded benefits. The calculation of this liability is based on different assumptions than the borrower's reported liability in its financial statements. This, in addition to the difficulty of predicting the funded status of a plan at some point in the future, complicates our ability to accurately assess the value of these claims.

Commercial Paper

CP consists of unsecured promissory notes issued to raise short-term funds. CP ratings pertain to the program established to sell such notes. There is no review of individual notes. Typically, only companies of strong credit standing can sell their paper in the money market, although there periodically is some issuance of lesser quality, unrated paper (notably, prior to the junk bond market collapse late in 1989). Alternatively, companies sell CP backed by LOCs from banks. Credit quality of such LOC-backed paper rests entirely on the transaction's legal

structure and the bank's creditworthiness. As long as the LOC is structured correctly, credit quality of the direct obligor can be ignored.

Rating criteria

Evaluation of an issuer's CP reflects our opinion of the issuer's fundamental credit quality. The analytical approach is virtually identical to the one followed in assigning a long-term corporate credit rating, and there is a strong link between the short-term and long-term rating systems. Indeed, the time horizon for CP ratings is not a function of the typical 30-day life of a CP note, the 270-day maximum maturity for the most common type of CP in the U.S., or even the one-year tenor typically used to determine which instrument gets a short-term rating in the first place.

To achieve an 'A-1+' CP rating, the company's credit quality must be at least the equivalent of an 'A+' long-term corporate credit rating. Similarly, for CP to be rated 'A-1', the long-term corporate credit rating would need to be at least 'A-'. In fact, the 'A+/A-1+' and 'A-/A-1' combinations are rare. Ordinarily, 'A-1' CP ratings are associated with 'A+' and 'A' long-term ratings.

Conversely, knowing the long-term rating will not fully determine a CP rating, considering the overlap in rating categories. However, the range of possibilities is always narrow. To the extent that one of two CP ratings might be assigned at a given level of long-term credit quality (e.g., if the long-term rating is 'A'), overall strength of the credit within the rating category is the main consideration. For example, a marginal 'A' credit likely would have its CP rated 'A-2', whereas a solid 'A' would almost automatically receive an 'A-1'. Exceptional short-term credit quality would be another factor that determines which of two possible CP ratings are assigned. For example, a company may possess substantial liquidity--providing protection in the near or intermediate term--but suffer from less-than-stellar profitability, a longer-term factor. Or, there could be a concern that, over time, the large cash holdings may be used to fund acquisitions. (Having different time horizons as the basis for long- and short-term ratings implies either one or the other rating is expected to change.)

Backup policies

Ever since the Penn Central bankruptcy roiled the CP market and some companies found themselves excluded from issuing new CP, we have deemed it prudent for companies that issue CP to make arrangements in advance for alternative sources of liquidity. This alternative, backup liquidity protects companies from defaulting if they are unable to roll over their maturing paper with new notes, because of a shrinkage in the overall CP market or some cloud over the company that might make CP investors nervous.

Many developments affecting a single company or group of companies--including bad business conditions, a lawsuit, management changes, a rating change--could make CP investors flee the credit. Given the size of the CP market, backup facilities could not be relied on with a high degree of confidence in the event of widespread disruption. A general disruption of CP markets could be a highly volatile scenario, under which most bank lines would represent unreliable claims on whatever cash would be made available through the banking system to support the market. We neither anticipate that such a scenario is likely to develop nor assume that it never will.

Having inadequate backup liquidity affects both the short- and long-term ratings on the issuer, because it could lead to default, which would ultimately pertain to all of the company's debt. Moreover, the need for backup applies to all confidence sensitive obligations, not just rated CP. Backup for 100% of rated CP is meaningless if other debt maturities--for which there is no backup--coincide with those of the CP. Thus, the scope of backup must extend to euro-denominated CP, master notes, and short-term bank notes.

The standard for industrial and utility issuers has long been 100% coverage of confidence-sensitive paper for all but the strongest credits. Companies rated 'A-1+' can provide 50%-75% coverage. A higher-rated entity is less likely to encounter business reverses of significance and--in the event of a general contraction of the CP market--the higher-rated credit would be less likely to lose investors. In fact, higher-rated companies could actually be net beneficiaries of a flight to quality.

While the backup requirement relates only to outstanding paper--rather than the entire program authorization--a company should anticipate prospective needs. For example, it may have upcoming maturities of long-term debt that it may want to refinance with CP, which would then call for backup of greater amounts.

Available cash or marketable securities are ideal to provide backup. (Of course, it may be necessary to "haircut" their apparent value to account for potential fluctuation in value or tollgate taxes surrounding a sale. And it is critical that they be immediately saleable.) Yet the vast majority of CP issuers rely on bank facilities for alternative liquidity.

The high standard for backup liquidity has provided a sense of security to the CP market--even though backup facilities are far from a guarantee that liquidity will, in the end, be available. For example, a company could be denied funds if its banks invoked material adverse change clauses. Alternatively, a company in trouble might draw down its credit line to fund other cash needs, leaving less-than-full coverage of paper outstanding, or issue paper beyond the expiration date of its lines.

In 1999, we introduced a new approach that offers companies greater flexibility regarding the amount of backup they maintain, if they are prepared to match their maturities carefully with available liquidity. The alternative approach differentiated between companies that are rolling over all their CP in just a few days and those that have a cushion by virtue of having placed longer-dated paper. The basic idea was that companies--if and when they lose access to CP--should have sufficient liquidity to cover any paper coming due during the time they would require to arrange additional funding. However, companies encountered practical difficulties in implementing the new approach. Moreover, changes in the banking environment have since made us more leery about a company arranging new facilities when under stress.

Still, notes that come due only 11-12 months from now do not require backup so far in advance. Companies should begin to actively arrange liquidity backup approximately six months prior to maturity. Similarly, 12-month notes that automatically extend their maturity month by month do not require back-up arrangements from day one. They will be able to arrange backup when and if the extensions stop, leaving a full 12 months to do so.

Extendible commercial notes (ECNs) provide built-in backup by allowing the issuer to extend for several months if there is difficulty in rolling over the notes; accordingly, there is no need to provide backup for them--i.e., until the extension is effected. However, there is no way to prevent the issuer from tapping backup facilities intended for other debt and use the funds to repay maturing ECNs, instead of extending. This risk is known as leakage. Accordingly, for issuers that provide 100% backup, unbacked ECNs must not exceed 20% of extant backup for outstanding conventional CP.

All issuers--even if they provide 100% backup--must always ensure that the first few days of upcoming maturities are backed with excess cash or funding facilities that provide for immediate availability. For example, a bank backup facility that requires two-day notification to draw down will be of no use in repaying paper maturing in the interim. The same would hold true if foreign exchange is needed, and the facility requires a few days to provide it.

Moreover, if a company issuing CP in the U.S. were relying on a bank facility in Europe, differences in time zones or bank holidays could prevent availability when needed. Obviously, a bank facility in the U.S. would be equally lacking with respect to maturing euro-denominated CP. So-called swing lines typically equal 15%-20% of the program size to deal with the maximum amount that will mature in any three- to four-day period.

Quality of backup facilities

Banks offer various types of credit facilities that differ widely regarding the degree of the bank's commitment to advance cash under all circumstances. Weaker forms of commitment, while less costly to issuers, provide banks great flexibility to redirect credit at their own discretion. Some lines are little more than an invitation to do business at some future date.

We expect all backup lines to be in place and confirmed in writing. Preapproved lines or orally committed lines are viewed as insufficient. Specific designation for CP is of little significance.

Contractually committed facilities are desirable. In the U.S., fully documented revolving credits represent such contractual commitments. The weaker the credit, the greater the need for more reliable forms of liquidity. As a general guideline, if contractually committed facilities cover 10-15 days of upcoming maturities of outstanding paper, that should suffice.

Even contractual commitments often include "material adverse change" clauses, allowing the bank to withdraw under certain circumstances. While inclusion of such an escape clause weakens the commitment, we do not consider it critical--or realistic--for most borrowers to negotiate removal of "material adverse change" clauses.

In the absence of a contractual commitment, payment for the facility--whether by fee or balances--is important because it generally creates some degree of moral commitment on the part of the bank. In fact, a solid business relationship is key to whether a bank will stand by its client. Standardized criteria cannot capture or assess the strength of such relationships. We therefore are interested in any evidence--subjective as it may be--that might demonstrate the strength of an issuer's banking relationships. In this respect, the analyst is also mindful of the business cultures in different parts of the world and their impact on banking relationships and commitments.

Dependence on just one or a few banks also is viewed as an unwarranted risk. Apart from the potential that the bank will not have adequate capacity to lend, there is the chance it will not be willing to lend to this issuer. Having several banking relationships diversifies the risk that any bank will lose confidence in this borrower and hesitate to provide funds.

Concentration of banking facilities also tends to increase the dollar amount of an individual bank's participation. As the dollar amount of the exposure becomes large, the bank may be more reluctant to step up to its commitment. In addition, the potential requirement of higher-level authorizations at the bank could create logistical problems with respect to expeditious access to funds for the issuer. On the other hand, a company will not benefit if it spreads its banking business so thinly that it lacks a substantial relationship with any of its banks.

There is no analytical distinction to be made between a 364-day and a 365-day facility. Even multiyear facilities will provide commitment for only a short time as they approach the end of their terms. It obviously is critical that the company arrange for the continuation of its banking facilities well in advance of their lapsing.

It is important to reiterate that even the strongest form of backup--a revolver with no "material adverse change" clause--does not enhance the underlying credit and does not lead to a higher rating than indicated by the company's

own creditworthiness. Credit enhancement can be accomplished only through an LOC or another instrument that unconditionally transfers the debt obligation to a higher-rated entity.

Banks providing issuers with facilities for backup liquidity should themselves be sound. Possession of an investment-grade rating indicates sufficient financial strength for the purpose of providing a CP issuer with a reliable source of funding.

There is no requirement that the bank's credit rating equal the CP issuer's rating; nonetheless, we look askance at situations where most of a company's banks were only marginally investment grade. That would indicate an imprudent reliance on banks that might deteriorate to weaker, noninvestment-grade status.